Reg. Richard Darling

THE ADMINISTRATION OF HIGHER EDUCATION IN MONTANA

BY
G. HOMER DURHAM

HELENA, MONTANA — 1958

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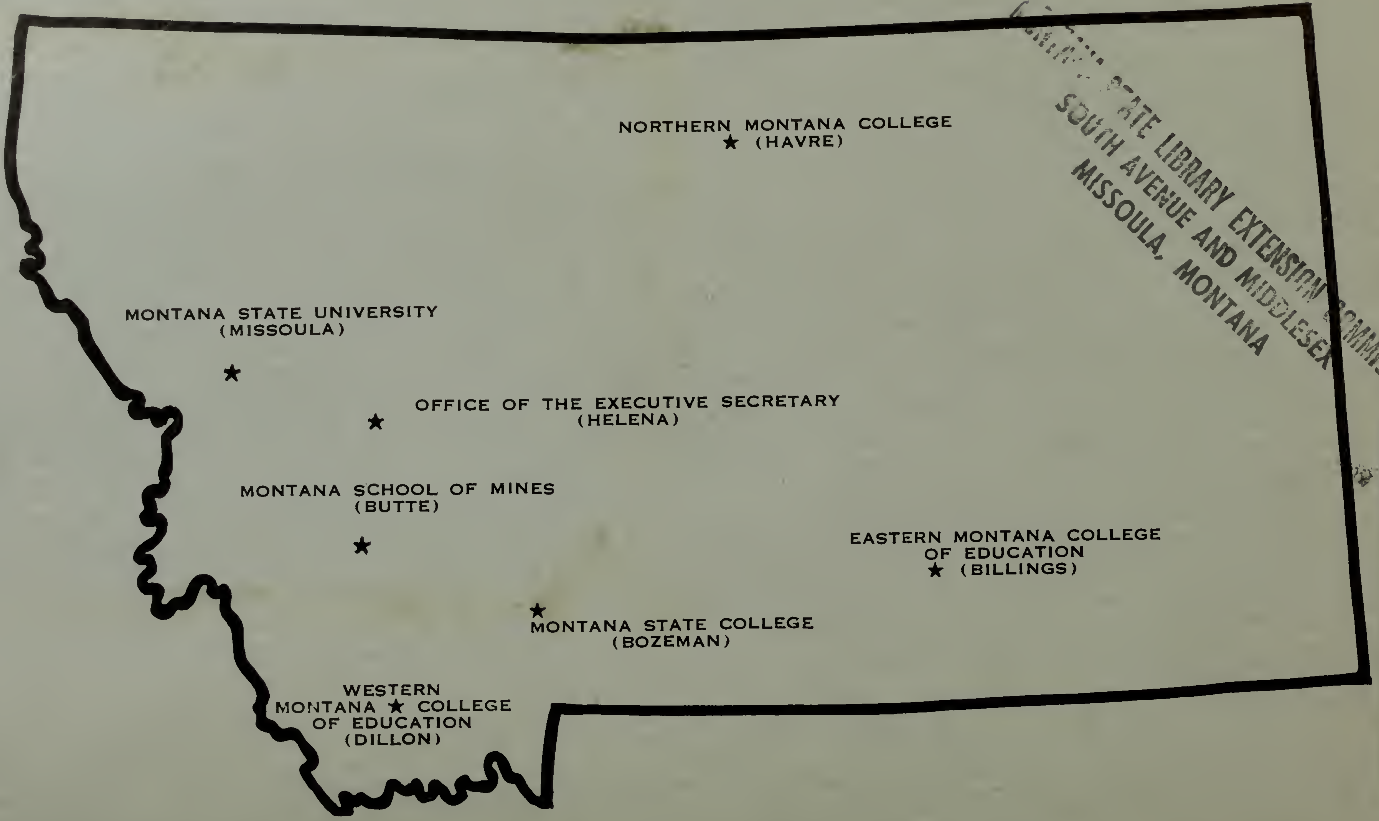

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Letter of Transmittal

Senator David F. James, Chairman, Montana Legislative Council
Dr. Frank McPhail, Chairman, Governor's Committee on
Education Beyond the High School

Gentlemen:

Herewith is the report on the administration of higher education in Montana prepared under the joint agreement of May 19, 1958, between the Montana Legislative Council and Governor Aronson's Committee on Education Beyond the High School. In accepting the invitation to undertake the study it was agreed that (a) its scope would be limited to the organization and administration of the University of Montana system, (b) that the study would be printed in sufficient quantity to make copies available not only to the members of the sponsoring bodies, but also to (1) the members of the legislature and elected state officers, (2) the members of the State Board of Education, the local "executive" boards, the administrative officers, faculty members of rank, and others immediately concerned in the affairs of the University of Montana, and (3) other interested persons.

May I acknowledge wth sincere appreciation the enthusiastic and willing cooperation of all Montanans approached in this study. The basic field work was undertaken in May, June, and July 1958. Each of the six university system campuses was visited, also Custer and Dawson County Junior Colleges. Citizens from Kalispell to Wolf Point, from Glendive to Dillon; presidents of colleges, Board members, faculties, the press, students, business and professional leaders, legislators and public officials, have all assisted measurably.

I should like to give special acknowledgement and commend to you the following for unusual help and assistance:

Mr. Eugene C. Tidball, Executive Director of the Legislative Council, and Miss Elizabeth Harrison, Secretary of the Governor's Committee.

Miss Dorothy Green, Executive Secretary of the University of Montana.

The members of the Legislative Council, Governor's Committee, and State Board of Education for helpful interviews, insights, and suggestions.

The Executive Council of the University of Montana, including the six presidents of institutions or their representatives, for many conferences, and unfailing courtesies.

Miss Harriet Miller, Superintendent of Public Instruction.

Dr. Layton Thompson, Professor of Agricultural Economics at Montana State College, Chairman of the Inter-Unit Institutional Research Committee, and the members of that Committee.

The Controllers, Business Managers, Executive Boards, administrative officers and faculties on the six campuses, especially Dean Lincoln J. Aikins of Eastern Montana College of Education, including the use of his excellent study *The Montana System* (Ed. D. Thesis, Montana State College, 1958).

The Bureau of Business and Economic Research of Montana State University, its Director, and staff.

Dr. Ernest Hollis of the U.S. Office of Education, Dr. Arthur S. Adams, President of the American Council on Education, Dr. Harold Enarson and the staff of the Western Interstate Commission for Higher Education, for valuable suggestions, particularly in planning the study; and for materials.

Many others who deserve but must escape enumeration here.

Finally, as you are aware, I must express sincere thanks to

President A. Ray Olpin and the University of Utah for granting consulting time and the facilities of that institution in prosecuting this work.

The aims and tenor of this study have been to combine the analysis of state government with the administration of higher education. I alone am responsible for errors of fact and judgment in the material which follows, and not any of the excellent people or sources whose help made the final report possible. My hope is that it contains some measure of benefit and degree of practicality for the people of Montana.

G. Homer Durham

University of Utah
Salt Lake City, Utah

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AN ADMINISTRATIVE CHRONOLOGY OF THE UNIVERSITY OF MONTANA[1]

1893 Legal establishment of the Montana higher institution with openings at:

1. Bozeman, April 17, 1893
2. Missoula, September 11, 1895
3. Dillon, September 7, 1897
4. Butte, September 11, 1900

1909 Local executive boards subordinated to the State Board of Education by statute.

1913 Establishment of the "University of Montana" with four units: Montana State University (Missoula), Montana State College (Bozeman), Montana School of Mines (Butte), State Normal College (Dillon). Position of Chancellor created.

1915 H.B. 14 passed, repealing the Chancellor plan, but vetoed by Governor Sam Stewart.

1916 Edward C. Elliott, Dean of the College of Education, University of Wisconsin, appointed as first chancellor. An Executive Council of presidents formed as advisory body to Dr. Elliott.

1918 Board resolutions adopted establishing official powers for the Chancellor as "the chief executive officer of the University," including reporting and budgeting powers.

1920 First millage campaign (10-year levy) and $5 million bond issue inaugurated.

1922 Chancellor Elliott resigns, effective September 1, 1922, to become President of Purdue. Dr. Melvin A. Brannon, President, University of Idaho, appointed as successor.

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[1] Based on Lincoln J. Aikins', *The Montana System: An Experiment in Higher Education* (Ed. D. Thesis, Montana State College, 1958, 287 pages, typewritten).

1927 Eastern Montana College of Education established at Billings.

1929 Northern Montana College of Education established at Havre.

1932 Board of Education shifts away from principle of central coordination and tends to bring presidents of the various units into direct contact with the Board, with Chancellor as a "cooperator" rather than "coordinator".

Chancellor Brannon submits resignation.

1933 Legislature passes bill abolishing Chancellorship system, vetoed by Governor Ericksen.

Rider to appropriation bill then attached "that the appropriation . . . herein shall *not* be used for salary and expenses of a Chancellor of the University of Montana."

"Caretaker" status begun under Dr. Henry H. Swain, executive secretary to Dr. Elliott and Dr. Brannon, and member of the advisory Executive Council since 1917. Board Minutes, April 3, 1933, (p. 1951) ask the Council to "function as nearly as possible as in the past."

1940 Millage campaign presents problems in absence of a Chancellor.

1941 Legislative Committees investigate possibility of restoring fund authority for Board to employ a Chancellor. House voted funds; Senate restored 1933 clause. Thus the measure failed.

Death of Dr. Swain. Miss Dorothy Green placed in charge of the Helena office.

1943 Governor Ford leads movement and secures removal of fund restriction by the 1943 Legislature.

Dr. Ernest O. Melby, President of Montana State University, elected Chancellor April 13, 1943, with leave from Missoula presidency and right to resume that post.

1944 Dr. Melby resigns chancellorship, July, resumes presidency at Missoula. Appointed "Executive Officer" for the Board of Education "to report . . . any suggestion made by the Council" — e.g. Chairman of the Executive Council, in effect. Dr. Melby recommends conversion of Dillon unit into vocational training school, Billings and Havre into junior colleges — a plan never consummated. Leiper Committee studies the system (Citizens' Commission).

1945 Legislature rejects the "Melby Plan" and requests presidents to appear separately. H.B. 214 passed "that no person who is a president of an institution can serve as an executive officer of the Board." Dr. Melby resigned as "Executive Officer" April, 1945. Miss Dorothy Green serves as Executive Secretary (long experience since 1933).

1946 Dr. George A. Selke, President, St. Cloud Teachers' College, Minnesota, appointed Chancellor, effective May 1, 1946. Executive Council continues and pattern of institutional presidents not curtailed.

1948 Committees on Basic Curricula, Teacher Education, and the Faculty Council, established.

1949 Chancellor Selke wins Board approval for channeling University business through the office of the Chancellor, September 23, 1949.

1950 Friction develops over $5,000,000 bond issue for University buildings. Board votes April 10, 1950, not to renew contract of President Vande Bogart of Havre. Chancellor Selke resigns November 1, 1950. Miss Dorothy Green appointed Acting Chancellor.

1951 Legislature abolishes position of "Chancellor," substituting "Executive Head" but makes no appropriation therefor. Miss Green's title changed, April 9, 1951, to "Special Assistant to the Secretary of the State Board of Education in matters concerning higher education." Changed title to "Executive Secretary of the University of Montana" July 16, 1951, with duties defined as (1) Secretary of the Executive Council, and (2) Miscellaneous clerical and "such other duties as necessary for efficient functioning of the office."

1953 Position of Executive Secretary established by statute, responsible to the Board.

Budget Committee of the Board for the University system established by statute.

1955 Subcommittee on Higher Education, "Little Hoover Commission," unable to reach conclusions on organization of the University system.

1957 Montana Legislative Council established. Governor's Committee on Education Beyond the High School undertakes review of Montana higher education.

1958 The Council and the Committee make joint agreement for a Council-financed study of the organization and adminitration of the University system.

CHANCELLORS OF THE UNIVERSITY OF MONTANA

(1913-1951)

1. Dr. Edward C. Elliott (1916-1922)
2. Dr. Melvin A. Brannon (1922-1933)
3. Dr. Ernest O. Melby (1943-1944)
4. Dr. George A. Selke (1946-1950)
5. Miss Dorothy Green (Acting Chancellor, Nov. 1, 1950. Position abolished by 1951 statute).

TEN BASIC RECOMMENDATIONS: A SUMMARY

1. The State Board of Education should organize itself (a) under existing law, and (b) in anticipation of constitutional and statutory change, to more clearly govern and accommodate the needs of Montana's university system.

Montana is well-equipped, better than many of its neighbors so far as population, number, and location of institutions are concerned, to meet future demands on education beyond the high school. The potential of 21 institutions (including six units of the state university system) constitutes an extensive resource. The future control and development of this resource requires wise coordination of the state system, and sound planning on the part of all individual institutions. Montana's participation in the Western Regional Education Compact (WICHE) provides signal opportunity to meet state needs in expensive, graduate-professional fields. Support of existing WICHE medical, dental, and veterinary programs should receive every encouragement. WICHE support also is a means of extending facilities and opportunities for Montana students, contributing to wise planning and economical use of tax resources for the programs already authorized within the state.

2. To more effectively meet its share of these problems, the State Board in dealing with University matters should view itself as the Regents of the University of Montana, *ex officio.* The legislature should confer this style by amendment to R.C.M. 75-107, adding: "The Board shall serve ex officio as Regents of the University of Montana and shall use and adopt this style in all its dealings therewith. As such, the University is constituted a body corporate and politic with all the rights, immunities, franchises and endowments heretofore granted or conferred, subject to the general laws of the state."

3. For the better government of the university system, the Board should be relieved of its responsibilities for administering the five welfare institutions.

4. Despite theoretical arguments for the "articulation" of higher, secondary, and elementary education, the problems of administering the University are far different from the supervision of the public schools. The University of Montana is in competition with universities elsewhere with the distinct social mission of universities. Articulation is more practically achieved if this mission is secure. The prosperity and well being of both the University and the public schools warrant their clear-cut separation for administrative purposes. Their nature in the structure of state government is quite different. One, the university is a direct primary function of the state administrative system *per se*. The constitutional responsibility for the public schools has been distributed (as in other states) to local school districts, supported by state aid.

5. A separate Department of Public Instruction, under the State Superintendent, should be established by law. If a policy-making board is provided therewith, it should be called the State Board of Public Instruction with the Board as presently constituted continued as the Regents of the University.

6. As Regents, the Board should be authorized to appoint one of its appointive members as chairman, relieving the already over-burdened governorship of this additional and excessive duty. The Governor may be retained as "president" of the Board, as with the Regents of the University of California. But a chairman with less heavy public demands is necessary to provide effective university government, including liaison between the representatives of the people on the Board and the professional university staff.

7. The Board, as Regents, should provide for strengthened *coordination* of the university system through the office of the Executive Secretary. This officer should serve as secretary of the Board (as Regents), rather than the Superintendent of Public

Instruction. The Executive Secretary should serve as the chief executive officer of the Board for University matters.

The Board has authority under existing law to accomplish this, and to further distinguish the position by conferring the title, Commissioner of Higher Education, Director of Higher Educational Finance, or some other suitable title if found necessary to the growing dignity of the office.

The office of the Executive Secretary should function as a *coordinating* device. The president of an individual institution should be fully responsible for managing operations on his campus. Nearly all states having prominent university systems have come to this position. Montana's ill-fated "Chancellor" system was undoubtedly a generation ahead of its time. Begun in 1913 as a coordinating device, such machinery has re-appeared in Oklahoma, Texas, Wisconsin, Oregon, Washington, New Mexico, Arizona, and other states, especially since World War II. The re-appearance comes, however, in "coordinating" form especially in finance and planning.

8. It is a basic principle that unit control and management should be differentiated from coordination in such a setup. The Board must accept full responsibility for the distinction, and must express it clearly, keeping its rules and regulations in print for the guidance of all concerned.

9. University finances have their root in academic programs at the six campuses. *Coordination* can be further assisted, under the Board and its executive officer, through a scheme of university-wide, institutional, and faculty committees (outlined in the report) to be recognized in the Board's rules. Future expansion in program and building costs can be more effectively planned, screened, and authorized by the Board under the revised organizational setup, including review, in the Executive Secretary's office based on architectural and engineering advice.

10. The problems for the future, recognizing the political facts that have brought six campuses into being, are to strive

for sufficient political maturity and wisdom *to see university problems as a whole,* and not as "Missoula," "Bozeman," "Billings," "Havre," "Butte," or "Dillon" matters; and to improve university planning by the Board and its executive officers. New tools, administrative, financial, of faculty utilization and space analysis, can best be installed under the leadership of a responsible, competent, central professional staff — with the Board's eye to the needs of the state as a whole. Only then can the legislature and the people be assured that "the six units of our university system shall be considered for all purposes one university." (R.C.M. 75-107)

(Additional groups of detailed recommendations are enumerated in chapter II, "Organization and Administration," and found throughout the text. Chapter IV, "Recommendations on Budgeting, University Finance, Physical Facilities, and General Coordination of the University System," contains another 47 detailed points as follows:

1. *Budgeting*: 9 specific items, including a revised form for the legislative appropriation act.
2. *University Finance*: 5 specific items.
3. *Buildings, Land, and Physical Facilities*: 11 items.
4. *Administration and General Coordination*: 22 items.

The appendices contain added information bearing on these central and detailed issues.)

CHAPTER I

INTRODUCTION

There is growing concern for the mounting costs of higher education to state governments. In this situation it is well to remember many facts. Among them are the rapidly mounting Russian investments; defense requirements; maintaining the nation's economic plant; developing new resources; citizenship training for the young; the preservation of life and health itself. The enactment by Congress of the National Defense Education Act of 1958 demonstrates current issues. But one fact stands above every other. A free state's investment in higher education is an investment in the untrammeled search for truth. This is the most important quest of free men. Without it a society denies its most basic aspirations. That is why the state of Montana, with its sisters of the American union, has established a state university system. That is why other universities and colleges are encouraged by the state. Where belief in the efficacy of sound knowledge exists, in the necessity for the unceasing search for truth, there a university may flourish and spread its benefits. Where such belief is weak or falters, a university tends to decay.

HIGHER EDUCATION AND STATE GOVERNMENT

It speaks well for the founders of Montana that they dreamed a dream of multiple campuses. They attempted to make higher education accessible to the people. Division of the state's resources among more than one campus entails complications. It requires additional investments in wealth, energy, and political wisdom. It is in search of an outside point of view with respect to future investments that this study has been desired.

The basic justifications for the present study are many. Included are:

1. *The centralization trend in state government.* Frequently since 1900, counties, municipalities, and local districts have been unable to meet the demands originally placed on them in our constitutional system. There result many problems, especially of *effective* operation of *rapidly* increasing state services.
2. *The assumption by state governments of many new services during the past four decades.* New state-administered services have crowded the older historic state functions, including the direct state obligations in the field of higher education. There were no state welfare, highway, public health services of multimillion dollar character forty years ago. The recent expansion of state-financed "foundation" programs for the elementary and secondary schools, all formerly financed by local governments, moreover, has been a central problem in western state legislatures — as one of the largest items of state expenditure. So keen are local interests in the public schools, that historic state concern for higher education has almost been submerged in the struggle to establish and increase "foundation" programs.

The results of these trends confuse state budget officers, legislators, and taxpayers. Widely competing demands appear. The upward spiral of dollar expenditures seems never ending. Perplexed is a generation of college and university presidents.

Today they feel that higher education, once a primary state role, is in danger of being lost in the new welfare-highway-health-public school "shuffle." They are chagrined to note from Beardsley Ruml that top salaries of university presidents "in 1908 ranged from $7,000 to $10,000," that "Today's salaries would have to be from $29,325 to $50,400 merely to restore the 1908 economic position, to say nothing about keeping relative pace with top executives in other lines."[1] They report to governing boards, governors, and legislatures that faculty salaries, to catch up with 1908, "would be $19,200,"[2] or, that Russian professors in 1958 earned eight times as much as Russian factory workers (compared with American professors' one-and-one-half times a U. S. factory worker's pay).[3] But they do not impress. Instead, more often than not, the people's representatives in the legislature, beset by pressures and squeezed by revenue systems geared to former days, look to the "university lobby" as the most persistent and unreasonable of them all.

---

[1] Ruml, Beardsley, and Tickerton, S. G. *Teaching Salaries Then and Now* (1955), pp. 17 ff. (A Ford Foundation Study).

In between, falls the area of decision for the future of society. It is not surprising that the "Summary and Conclusions" of a report to the Governors' Conference on Higher Education in the Forty-Eight States in 1952 stated the case thus:

"1. Public demand for the services provided by institutions of higher education will continue to mount; expenditures of institutions of higher education will continue to increase."

"2. Public funds will continue to supply the major share of income received by institutions of higher education."

"3. Close coordination of the programs and activities of state institutions of higher education is urgently needed in order that available resources and facilities may be utilized most effectively."[4]

SOME EARLIER REPORTS

The Montana "Little Hoover Commission" subcommittee on higher education[5] in 1953 found three matters of "first importance" in its report on higher education. They were:

---

[2] *Ibid.*

[3] McGraw-Hill Publishing Co., "Who Are Today's Capitalists?" (1958)

[4] *Higher Education in the Forty-Eight States* (The Council of State Governments, Chicago, 1952).

[5] Senators Glen H. Larson, H. A. Tibbals; Reps. William R. Mackay, M. E. Magnuson. (Chapter X, pp. 60-67, Committee on Reorganization of State Government, *Report to the* 33d *Legislative Assembly*, January, 1953)

1. Duplication among institutions.
2. Administration of the system of higher education.
3. The Western interstate compact (WICHE).

The WICHE program was approved. But on organization and administration of the university system, the report "was unable to reach conclusions." It recommended that "further study of the administrative structure of the state's system of higher education be undertaken by a succeeding interim legislative committee."

The words of the McConnell-Nolan-Carleton report in 1900 are also prophetic for the second half of the twentieth century:

"The entire adjustment of the system is in the hands of the State Board of Education.

"Every institution is to be related to the University in the way that the Board may indicate.

"If some general plan of management is not provided, if some central organization is not effected, by which the whole system may be wisely controlled much energy will be lost from lack of proper organization, and conflict of interest will arise that will be productive of evil.

"Two of these evil results will be unnecessary duplication of work and jealousy in regard to the amount of appropriations allowed by the State to the different institutions."

The "Montana Commission on Higher Education" (19 members appointed January, 1944, Frank P. Leiper, Glendive, Chairman), voiced a similar theme in the opening sentence of its report:[6]

"For many years serious problems have been encount-

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[6] *Report of the Montana Commission on Higher Education.* With the Recommendations of the State Board of Education, September 26, 1944, and a Minority Report submitted by James D. Graham, July 22, 1944, Naegele Printing Co., Helena, 20 pp., 1944.

> ered *in the organization and administration* of higher education in Montana."

The first of eight "conclusions" by this body was to the effect that the six units "must be considered for all purposes as one university."

These considerations still weigh heavily in Montana. The Board of Education has authority to do the job. Only minor adjustments, if any, need to be considered in the statutory and constitutional structure. This study generally proceeds on the premise that Board action is the preferable and feasible route to meeting and solving the major administrative problems.

Some alternative plans for organizing the University of Montana under existing Board authority could embrace roughly the following:

1. Preserve the status quo. Do nothing.
2. Revive the authority of local executive boards, with the State Board of Education functioning as a coordinating board,[8] as in Texas, New Mexico, Oklahoma, and elsewhere.
3. Build on the past experience and *status quo* toward a more effective coordinated system, by strengthening the policy position of the Board, and the central office of the Executive Secretary, already created by law.[9] This is the most logical, the most practical, and the politically feasible approach to future organization, and the one finally adopted after hundreds of interviews, much study and discussion, for this study.

Other alternative possibilities are many, including such radical legislative steps as dissolving the six units into one (at either Missoula or Bozeman); merging or discontinuing one or more; or centralizing the six units into one administrative system like the University of California (as was recommended by the Griffen-

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[7] Report of Special Commission, W. N. McConnell, C. B. Nolan, and E. A. Carleton, Montana State College Rare Book Collection, Call No. 379.786M763r, page 27.

[8] See R.C.M. 75-307.

[9] "The board *must* appoint an executive secretary of the University of Montana and fix his term of office and prescribe generally his duties." RCM 75-107-12.

hagen study in 1941-42.[10] Such radical steps have been the object of other studies and have been rejected as impractical or politically unfeasible. All, with variations, have been taken into account in selecting the present approach — namely, to build on past experience toward a more effective *coordinated* system embracing the six units now established by the state's legal and political processes.

TABLE 1.

ENROLLMENTS: 21 INSTITUTIONS PROVIDING EDUCATION BEYOND THE HIGH SCHOOL, STATE OF MONTANA, NOVEMBER, 1957

Kinds of Institutions	Number of Institutions	Enrollment
University of Montana System	6	8,494
Private, 4-Year Colleges	3	1,484
Junior Colleges	2	319
Nursing Schools	4	243
Business Colleges	6	500 (approx.)
	21	11,040

Source: Governor's Committee on Education Beyond the High School, 1-20-58.

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[10] "That the six institutions . . . be consolidated into a single institution, designated as the University of Montana, with provision for administration as follows:

(a) One president of the consolidated university, with an office at one of the larger centers, but with the duty of keeping in close touch with, and spending a portion of his time in, each university center.
(b) The four smaller units to be operated under the direction of deans.
(c) The two larger units to be operated by vice presidents (or provosts) to whom the deans of the schools or divisions at these places would be responsible.
(d) The president to take over the Office of the Executive Secretary at Helena.
(e) A single business office and a single registrar's office to be located at the unit at which the president maintains his central office, with assistants at the other units.
(f) A single university library, with interchange of books among the branches.

Montana, Governor's Commission on Reorganization and Efficiency, *University of Montana: The State's Provision for Higher Education*, (Report No. 56, January 19, 1942, prepared by Griffenhagen and Associates) p. 1.

PRESENT FACILITIES IN MONTANA

Although higher education in Montana is not confined to the state university system, that system is the State's major concern from the standpoint of public policy and finance.

TABLE 2

ENROLLMENT OF DEGREE—CREDIT STUDENTS (RESIDENT AND EXTENSION), STATE OF MONTANA, FALL, 1957, BY INSTITUTION AND BY SEX

Rank	Institution	Total	Men	Women
4	Carroll College	661	406	255
5	College of Great Falls	549	311	238
11	Custer County Junior College	155	31	124
10	Dawson County Junior College	175	63	112
3	Eastern Mont. Col. of Educ.	880	480	400
8	Mont. School of Mines	303	277	26
1	Mont. State Col.	3547	2577	970
2	Mont. State Univ.	2999	2160	839
6	Northern Mont. Col.	518	226	292
9	Rocky Mountain Col.	244	181	63
7	Western Mont. Col. of Educ.	323	183	140
	Total	10354	6895	3459

Source: *Opening Enrollment in Higher Educational Institutions, Fall,* 1957, Circular 518, U. S. Department of Health, Education, and Welfare, Table 13, page 34.

The state also has the advantage of three private four year colleges, two junior colleges, four nursing schools, and six business colleges. Combined, these twenty-one institutions enrolled approximately 11,040 students as of November, 1957. Some 94 per cent (or about 10,354) were enrolled in degree-credit institutions. Nearly 85 per cent of the degree-credit total were enrolled in the public or tax-supported institutions.

About 15 per cent were enrolled in privately supported institutions. The bulk of the higher education load is carried by publicly supported institutions. This does not mean that Montana's place in higher education is determined solely by the six units of the university system and the other institutions receiving public support (Dawson and Custer County Junior Colleges). However, it does signify the central task of the state government in maintaining higher educational facilities in Montana for the people of the state.

It is not likely that the balance between publicly and privately supported institutions will change in future American experience. In two western states, Wyoming and Nevada, the entire load of higher education is carried in public institutions. New Mexico carries about 90 per cent of its load in publicly supported institutions. Other relationships in western states may be seen in table 3.

TABLE 3.

DISTRIBUTION OF COLLEGE STUDENTS
BETWEEN PUBLIC AND PRIVATE INSTITUTIONS
WESTERN REGION, 1954

State	% in Public Institutions	% in Private Institutions
Arizona	96.9	3.1
California	78.9	21.1
Colorado	67.6	32.4
Idaho	73.8	26.2
Montana	84.2	15.8
Nevada	100.0	....
New Mexico	92.2	7.8
Oregon	74.4	25.6
Utah	66.2	33.8
Washington	72.3	27.7
Wyoming	100.0	....
Alaska	100.0	....
Hawaii	100.0	....

Source: WICHE, *Issues in State-Supported Higher Education* (A Report to the Western Governor's Conference, Colorado Springs, February 24, 1958), page 18.

As of July 1, 1957, the State of Montana had invested (represented by the inventory) $2,016, 759 in land for university campuses and $31,977, 541 in campus buildings. The inventory is shown in the Appendix. In the fiscal year 1957, based on an anaysis by the Tax Foundation (See Table 4), Montana expended approximately 13.4 per cent of its total state expenditures for higher education. In eleven U. S. states containing 700,000 population or less, Montana ranked third in the percentage of total state expenditures spent for higher education in that year, approximately $13,510,000. According to figures derived from the Compendium of State Government Finances in 1957 by the

TABLE 4.

EXPENDITURES FOR STATE INSTITUTIONS OF HIGHER LEARNING, FISCAL 1957 AS A PERCENTAGE OF PER CAPITA PERSONAL INCOME FOR CALENDAR 1956: ELEVEN WESTERN STATES AND THE DAKOTAS

State	1956 Per Capita Income	Expenditures Per Capita	Percent	
Arizona	$1718	22.11	.75	
California	2419	19.74	.82	
Colorado	1863	24.75	1.33	
Idaho	1587	14.13	.89	
Montana	1862	20.69	1.11	
Nevada	2413	18.58	.77	
New Mexico	1494	23.58	1.58	(U. S. High)
North Dakota	1365	18.91	1.39	
Oregon	1908	19.38	1.02	
South Dakota	1330	18.00	1.35	
Utah	1633	22.92	1.40	
Washington	2022	19.69	.97	
Wyoming	1875	22.35	1.19	
U. S. Average	1937	11.76	.61	
New York	2395	3.58	.15	(U. S. Low)

Source: Tax Foundation and C S G F, 1957

Tax Foundation of New York, this represented a per capita expenditure for higher education in Montana of $20.69. Only New Mexico ($23.58) and Utah ($22.92) expended more per capita for higher education in fiscal 1957 among 11 states containing 700,000 or less population. Montana's expenditure represented 1.11 per cent of its per capita personal income. Utah, New Mexico, South Dakota, North Dakota and Wyoming spent a larger per cent of personal income on higher education that year. Table 4 shows the relationships.

TABLE 5.

STATE EXPENDITURES PER CAPITA FOR STATE INSTITUTIONS OF HIGHER EDUCATION
FISCAL 1957

High State (Michigan)	$25.13
Low State (New York)	3.58
United States Average	11.76
Western States Higher Than Montana:	
1. Colorado	$24.75
2. New Mexico	23.58
3. Utah	22.92
4. Wyoming	22.35
5. Arizona	22.11
Montana	$20.69
Western States Lower Than Montana:	
1. California	$19.74
2. Washington	19.69
3. Oregon	19.38
4. Nevada	18.58
5. Idaho	14.13

Source: Tax Foundation and CSGF, 1957.

What has been achieved in the establishment of the six units of the university system, plus the private facilities for education beyond high school in Montana?[11] There are eleven states (not including Alaska) in the smallest population group (below 700,000 population in the 1950 census). In this group Montana ranks fifth in size. In the number of Bachelor degrees granted in 1951, Montana ranked fifth, same place as its population rank.

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[11] See Appendix III-B "Educational Characteristics of Montana and Neighboring States."

TABLE 6.

BACHELOR'S DEGREES GRANTED, 1951, IN ELEVEN STATES BELOW 700,000 POPULATION (1950 CENSUS) RANK ORDER

Population Rank	Number	Number of Subject Fields	Percentage (U. S.)
1. Utah	2,892	47	0.7
2. New Mexico	1,742	35	0.4
3. South Dakota	1,537	40	0.4
4. North Dakota	1,351	39	0.4
5. Montana	1,522	37	0.4
6. Idaho	1,255	39	0.3
7. New Hampshire	1,640	39	0.4
8. Vermont	1,448	32	0.4
9. Wyoming	649	30	0.2
10. Delaware	625	18	0.2
11. Nevada	324	23	0.1

Source: Construction from Table H, *Higher Education in the Forty-Eight States,* (1952), page 41.

In the list of accredited higher institutions, compiled in 1956 by the U. S. Office of Education, Montana State University showed the largest number of listed "accreditations" of any Montana institution. This represented specialties in the fields of business, chemistry, forestry, journalism, law, music, pharmacy and teacher education. Montana State College held accreditations in three significant categories (eight if each of the engineering specialties is separated): chemistry, engineering (architectural, chemical, civil, electrical, industrial, and mechanical) and in teacher education. The Montana School of Mines was shown to be accredited in engineering (geological, metallurgical and mining). Eastern Montana College of Education and Western Montana College of Education were listed for accreditations in the field of teacher education. Northern's program was then new. All six of the University units were generally accredited by the Northwest Association of Secondary and Higher Schools.

Higher education is still unfinished business in Montana; Montana is barely entering the period of graduate study for higher degrees at the level of the doctorate. A recent study by the National Academy of Sciences — National Research Council, has been made of doctorate production in all U. S. universities from 1936 to 1956. In this study, two doctorates were represented from the State of Montana, both having been conferred by Montana State College in the field of the physical sciences or engineering Several more have been conferred since 1956, five in June, 1958, demonstrating that the Bozeman campus is well on its way with advanced graduate work.

More significant as an index to what Montana and the nation have been receiving for the investment in the university system (and in its private institutions), may be seen from the same national study of the "Baccalaureate Origins of Doctorates," 1936-56. Here the State of Montana contributed 380 persons with Bachelors degrees who went on to achieve doctorates (See Table 7). In two states of roughly comparable size, New Mexico and Arizona, only 207 and 274 respectively were produced. The impulse toward graduate professional leadership in Montana has thus outweighed some, but not all of its neighbors. Montana led Idaho with 276 and the smaller western states of Wyoming with 128, and Nevada, which produced 51. The State of Utah with population somewhat larger than Montana, produced three times as many Doctorates from its Bachelors as the State of Montana, 1,260 compared with Montana's 380. In the Dakotas, North Dakota produced 313 and South Dakota 443, in this same period.

TABLE 7.

BACCALAUREATE ORIGINS OF DOCTORATES, 1936-56, RANK ORDER, WESTERN REGION

Rocky Mountain States	3737	*Pacific States*	8823
Utah	1260	California	6233
Colorado	1161	Washington	1593
Montana	380	Oregon	997
Idaho	276		
Arizona	274		
New Mexico	207	*Dakotas*	756
Wyoming	128	South Dakota	443
Nevada	51	North Dakota	313

Selected States Below 700,000 *Population*	1041
New Hampshire	669
Vermont	285
Delaware	87

Source: National Academy of Sciences — National Research Council, *Doctorate Production in United States Universities* 1936-1956, Publication 582, 1958, Table 7, pp. 58-59.

In the United States 95 out of 1,100 institutions studied, contributed the Baccalaureate origin of 74 per cent of all Doctorates conferred in the tweny-year period. No Montana institution qualified for listing by the National Research Council in the 95 leading Baccalaureate origin institutions. Sixteen institutions from the eleven western states were included in the leading 95. Five were from California (Berkeley, U.C.L.A., Stanford, Cal. Tech., and the University of Southern California). This would be normally expected from such a large state. Also, representation would be expected from such states as Washington and Oregon. The University of Utah with 525 Bachelors who received Doctorates in the period led in the other eight states, exceeded two Oregon and one Washington schools. (University of Colorado 384, Utah State 370, Brigham Young 361, Washington State College 289, Oregon State College 281, University of Oregon

222, and the University of Idaho with 216). Among private institutions Stanford led the west with 727. The University of Southern California produced 338, the University of Denver 255, and Reed College 239. Among the remaining thousand-odd institutions not included in the 95 leaders, the Montana system fared very well. Montana State College produced 177, Montana State University 155, Montana School of Mines 15, and Western Montana College of Education 4. This total of 351 for the "University of Montana" as a whole compares very favorably with the University of Idaho 216, the University of North Dakota 107, the Universities of Arizona 209, New Mexico 130, and Wyoming 128.

This index, as well as many others which could be cited, suggests results of the diffusion of Montana's state system into six units. The political and social considerations which have produced the six separate institutions of the University of Montana system, however, can hardly be reversed.[12] The major question is what shall Montana do in the future through six units.

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[12] The Lewiston *Daily News* in an editorial, Sunday, August 3, 1958, called for consolidation into three instead of six units. Such a proposal overlooks the realities of the politics of such counties as Yellowstone and Beaverhead. It is doubtful that the legislature could be persuaded to either close a school, or confer power on the governing board to do so.

TABLE 8.

UNIVERSITIES AND COLLEGES IN THE 11 WESTERN STATES INCLUDED IN THE 95 INSTITUTIONS HAVING GREATEST NUMBER BACCALAUREATE ORIGINS OF DOCTORATES, 1936-56

U. S. Rank Order	Institution	Number Produced
1	University of California (Berkeley)	2318
13	U.C.L.A.	1021
15	University of Washington	916
21	Stanford University	727
34	University of Utah	525
38	California Instit. of Technology	478
42	University of Colorado	384
44	Utah State University	370
49	Brigham Young University	361
56	University of Southern California	338
68	Washington State College	289
69	Oregon State College	281
77	Denver	255
81	Reed College	239
88	Oregon University	222
91	Idaho	216

BACCALAUREATE ORIGINS OF DOCTORATES IN MONTANA AND NEIGHBORING STATE INSTITUTIONS NOT INCLUDED IN THE 95 LEADING PRODUCERS

Institution	Number Produced
Idaho (U.)	216
Arizona (U.)	209
Montana State College	177
Montana State University	155
Colorado State	148
New Mexico (U.)	130
Wyoming (U.)	128
University of North Dakota	107
Nevada (U.)	51
Montana School of Mines	15
Western	4
Eastern	0
Northern	0

Source: National Academy of Sciences — National Research Council, *Doctorate Production in United States Universities* 1936-1956, Publication 582, 1958, Table 10, pages 70-71.

CHAPTER II.

THE PROBLEM OF EFFECTIVE ORGANIZATION

COORDINATION AS PRINCIPLE AND OBJECTIVE

The major problems of organization and administration in the University of Montana resolve themselves into two: (1) The problem of effective coordination of the six units; (2) The problem of effective control of individual institutions in their operations. Finance, program, expansion, and a multitude of academic issues are involved in these major considerations.

In a report released July, 1958 entitled *The Control and Coordination of Higher Education in Michigan,* Dr. John Dale Russell noted principles pertinent to other states.[1] The welfare of an individual institution, this national authority explained, often assumes greater importance than the service the institution is designed to render the state. In Montana six University units exist, each with its specific design. The legislature cannot give detailed attention to these units, nor should it. The state has an administrative system for this purpose, in this case, the governing board. But more than a board or other agency is necessary if a unit is to fulfill its design as well as seek its own welfare. Competent personnel, keen tools of analysis, and continuing institutional studies are required, to yield what Dr. Russell calls "trustworthy and pertinent information" for all parties concerned. The Board must rely on professional assistance for such information, which is needed both to advise the legislature, win its confidence, and to feed back to the institutions in the form of policies. The Board of Education in Montana, despite heroic labors of the Executive Secretary, is not organized with an administrative system that can do this job in future years. Again, as Dr. Russell points out, the purpose of a strong coordinating mechanism is not "to eliminate institutional ambitions for excellence" but rather to replace a "me too" complex in program development, by wise judgment and planning.

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[1] Staff Study No. 12 (Lansing, Michigan, 91 pp.). The author had the benefit of a conference with Dr. Russell and staff at Santa Fe, New Mexico, June 5-6, 1958; also the privilege of examining the procedures of the New Mexico Board of Educational Finance.

Basic principles of coordination and control as outlined by this leading authority include the following:

1. **A state educational system is as strong as its individual institutions are strong.** However, it should be recognized that "a college does not have to offer a wide variety of programs to be strong."

2. **The mere presence of one or more strong institutions doesn't necessarily mean that the state system has strength as a whole.**

3. **Strength in an institution "is closely associated with autonomy in the making of essential decisions affecting the institution's operation."**

4. **Coordination should not involve, therefore, harmful interference with institutional autonomy.** But it must be recognized that there are three necessary functions in coordination: (a) Collection and analyisis of data (which is not interference "because the institution benefits"); (b) Advice and counsel (not interference, says Dr. Russell, when it comes from a competent, professional staff); (c) Review of institutional requests for appropriations and recommendations for appropriations to the legislature. This, Dr. Russell advises, is *not* interference because *the job has to be done*. It is in effect, a "pre-audit for the legislature."

5. **Control and management must be differentiated from coordination.** "Almost invariably," says Dr. Russell, "when there are more than a few institutions (under a single authority) and the attempt is made to combine under a single board, the two functions of coordination and control, one or the other of the functions is gravely neglected."

Many reports, even the legislature itself, have stated that the six units of the Montana system should be treated in effect as "one university." At the present time the six units are far from this goal. Such a goal may never be realized in the same way as it has been realized in California. The difference lies in the origin of the two systems. California began as a single institution in 1868 and expanded to additional campuses. In Montana, the institutions began as separate ones in 1893. In 1913 came the regrouping and the chancellorship. Separate identity of all campuses in institutional thought, feeling and operation has continued. This element in Montana's history would seem to guarantee future "autonomy." On the other hand, if the "co-ordination" designed in the new office of the new Executive Secretary can be provided, plus some faculty machinery, it is the feeling of this report that optimum development of the Montana system can be achieved. The rich individuality of each institution can be preserved and maintained. Expensive, duplicating programs can be kept under control and wise planning made for the future.

This leads to certain additional assumptions which need to be stated.

CERTAIN ADDITIONAL ASSUMPTIONS

1. The people and state of Montana desire as strong and as effective a University system as they can reasonably afford.

2. Such a system is internally dynamic; partially self-sustaining from fees, charges, efficient internal operations, and other means of support.

3. The financing of such a system requires extensive annual or biennial appropriations from the legislature.

4. Such appropriations are made by the legislature primarily for the maintenance of the University system within the framework of general public policy, and not for purposes of minute or detailed control of the system. The latter responsibility is legally assigned to the board.

5. The general control and supervision of the University system is vested by the constitution and laws of Montana in its governing board.

6. The governing board must accept full responsibility to the people and to the state, for the direction, growth, program, management, and control of the university system. Elected officials, including ex-officio boards, the Legislature, and the Legislative Council must recognize and cope with this fact, rather than with the details of administration.

7. The governing board must accept and discharge *full* responsibility for the execution of the law and its policies governing the University; provide by delegation for the details of efficient coordination and control, by appointing efficient and responsible executive officers; and, by requiring under its own rules as well as by law, such procedures, financial methods, auditing, and reports, as will ensure *full* accountability at *all* times.

8. The governing board of a desirable university system, must recognize that the broad shape as well as the details of university development issue from social needs felt largely by its faculties and students who, themselves, are personally and vitally concerned with the shape of things to come. In addition to carefully devised policies for efficient administration, therefore, it must recognize the dynamic nature of the curriculum, of internal academic organization, the relations thereof to real needs and to actual costs, including the requests made of the legislature. By wise rules and provisions, the Board must establish, through its executive officers the necessary organization and those procedures whereby appropriate review with due regard to financial responsibility can be developed within the institutions themselves. Expansions in program, utilization of space and personnel, are policies originating internally. They must be subjected to constant, critical internal review by those primarily concerned, with the administration charged with seeing that the Board is fully informed as to the progress, needs, and limitations of the several institutions.

9. To secure the largest possible measure of public understanding, and intelligent support from the Legislature, the system increasingly will require central coordination, especially in the fields of financial administration, physical plant and other planning, budgeting and statistical services.

10. Financial coordination will largely determine the shape and size of the separate institutions, their costs, and the nature of their educational programs. There is large and vital place for educational leadership and unique institutional roles within such a financial framework.

11. There is no compelling reason for the establishment of additional institutions in Montana at this time, nor in the apparent future, in order to meet the state's obligations for collegiate education beyond the high school. Wise planning in the University system, with due attention to future and unforeseen needs, should serve the interests of Montana long and well, recognizing the possibility of readjustments within the system itself.

12. The total dollar-expenditures for higher education, in Montana, as with all growing concerns, public or private, will continue to rise. This is a consequence of inflation, population growth, and the constant impact of urbanization, science and industrialization on society. The growth of the University is largely an index, but also a cause, in the growth of Montana.

The University should be able, however, to absorb some increase in students without excessive increase in unit SCH (student credit hour) costs. Faculties are learning more effective means of space utilization, consolidation of "splinter" courses, elimination of small classes, and general absorption (in some areas) of larger enrollments without undue increase in certain staff and in certain space. Beardsley Ruml thinks 20-to-1 faculty student ratios will soon be commonplace. The challenge to faculties is to do these things without jeopardizing the quality of instruction.

13. These assumptions and outcomes rest on the belief in the

governing board as the central agency for securing the rule of law; orderly procedure; financial improvement and reorganization; and, in the capacity of human intelligence to recognize the limitations as well as the possibilities inherent in any situation. A well-ordered governing board has an unusual obligation and responsibility in exhibiting to its state government, and to the society for which it aims to produce qualified citizens and leaders, such a model. The University of Montana, properly understood, will not fail in such service.

Montana and its university system are far from the mature growth and development that awaits them. On the other hand there is no overt crisis of calamitous nature that immediately threatens the system. Wise planning however, must be done, a spirit of loyal cooperation constantly developed, in order to properly pace future growth.

THE GOVERNING BOARD

The position of the State Board of Education with respect to the government of higher education, to public instruction below the University system, and to welfare institutions, needs to be clarified.

Donald Blackburn in a study of the Montana Vocational School for Girls, April 1958, has said with respect to welfare institutions:

> "Since the laws establishing the State Board (of Education) and the local Boards do not clearly define their relationships . . . the principles (and any advantages) of good board control are virtually negated."[2]

This study also pointed out that the State Board of Education was inadequately staffed "in the area of providing supervisory services to the training schools,"[3] and led to a major recommendation for reorganization.[4]

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[2] *A Report of the Montana Vocational School for Girls,* Dept. of Health, Education and Welfare, Washington 25, D. C., Mimeo., 73 pp., p. 9 (April, 1958).

[3] *Ibid.,* p. 11.

[4] *Ibid.,* "Appendix: Major Recommendations."

The Board is also strained in the absence of a strong central staff to provide adequate coordinating services for the six university institutions. There are fifteen states in which a state board of education has some degree of supervision over higher education or a segment thereof. (See Table 9). The Montana and Idaho State Boards of Education are the only ones that appear to "mix" control of *major* university systems with some supervision of other public education.

The Board is further unique in that, in addition, it superintends the affairs of five welfare institutions. In contrast to other university governing authorities, the Montana board is "spread" too far and too thin.

TABLE 9.

FIFTEEN STATES IN WHICH THE STATE BOARD OF EDUCATION HAS SOME DEGREE OF SUPERVISION OVER HIGHER EDUCATION OR A SEGMENT THEREOF

Alabama	(But not the University)	Michigan	(But not the University
California	(But not the University)	Montana	
Connecticut	(But not the University)	New Jersey	(But not the University
Idaho		Tennessee	(But not the University
Kentucky	(But not the University)	Utah	(But not the University nor four-year colleges)
Maine	(But not the University)		
Maryland	(But not the University)	Virginia	(But not the University
Massachusetts	(But not the University)	West Virginia	(But not the University

Source: Table 66, *Higher Education in the Forty Eight States,* a report for the Governors' Conference, 1952, pages 258-259.

The two former functions seem clearly to result from legislative disposition and *not* necessarily as a consequence of Article XI, Section 11 of the state constitution. Furthermore, the Legislature appears never to have clearly provided for a Department of Public Instruction. Rather, it has assigned various matters to the Superintendent of Public Instruction, around whose office such an organization has grown.

Constitutional Considerations

The Board enjoys the following constitutional status:

1. "The general control and supervision of the state university and the various other state educational institutions." Its "powers and duties," however, "shall be prescribed and regulated by law."[5]

2. Its membership is fixed at eleven with three elected state officials *ex officio* (governor, state superintendent of public instruction, attorney general), and eight members "appointed by

TABLE 10.

PRESENT ORGANIZATION
MONTANA STATE BOARD OF EDUCATION

STATE BOARD OF EDUCATION

Ex Officio:	Appointed:
Governor ("President")	8 members — 8 year terms
Attorney General	(4 each Congressional District)
Superintendent of Public Instruction ("Secretary")	(4 each Party)

Appoints and supervises: 12 *Chief Administrative Officers:*

1. Executive Secretary, University of Montana

2.–7. Six Presidents of the University Units

8.–12. Five Presidents of the "Custodial" Institutions

Takes Action on:

Matters presented from areas under the administrative control of the independently elected State Superintendent of Public Instruction.

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[5] *Constitution of Montana,* Article XI, section 11. The phrase "and the various other state educational institutions" need not stand in the way of legislation "prescribing" and "regulating" its "powers and duties."

the governor; subject to the confirmation of the senate, under the regulations and restrictions to be provided by law."[6]

These constitutional conditions may be changed only with difficulty. Article XIX, section 8 of the constitution provides that amendment is possible through a new constitutional convention. Such a body may be called by (1) "two-thirds of the members *elected to each house;*" followed by (2) submissions to the electorate and approval by a majority of those voting on the question; followed by (3) fixing the time and election of members at the *next* legislative assembly. Section 9 of the same article provides that amendments "may be proposed in either house" by two-thirds "of the members elected"; publication in one newspaper in each county for three months prior to the next general election; submission at that election and approval by a majority voting thereon.

Statutory Powers of the Board

The constitution, Article XI, section 11, contains the specific provision that the "powers and duties" of the Board "shall be prescribed and regulated by law." As of now the Board has the following major powers by legislation, so far as the University is concerned.[7]

1. To hold meetings. (75-106).

2. To have "general control and supervision of the university system." (75-107-1).

3. To consider the six units "for *all* purposes one university." (75-107-1).

4. To make rules and regulations for its own (the Board's) government, "and proper and necessary for the execution of the powers and duties conferred upon it by law." (75-107-2, 3).

5. To grant diplomas "upon the recommendation of the faculties thereof." 75-107-5).

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[6] *Idem.*

[7] Its other powers affecting (1) public schools and (2) welfare institutions are not enumerated here.

6. To confer honorary degrees "upon the recommendation of the faculty . . ." (75-107-5).

7. To adopt and use a seal. (75-107-6).

8. To keep records, make reports. (75-107-7, 8).

9. To have, when not otherwise provided by law, "control of all books, records, buildings, grounds, and other property of the institutions . . ." (75-107-10).

10. To receive funds, incomes, and other property, "and to have general control of all receipts and disbursements of any of said institutions." (75-107-11).

11. To choose and appoint "a president and faculty for each . . ." 75-107-12).

12. "The Board *must* appoint an executive secretary of the University of Montana and fix his term of office and salary and prescribe generally his duties. Said executive secretary shall not be a member of the Board." (75-107-12).

13. To appoint a budget committee of four appointive members to review and transmit requests for the university. (75-107-13).

14. To confer upon the local "executive boards" such authority "other than financial and the selection of the faculty, teachers, and employees" as "may be deemed expedient . . ." (75-107-16).

15. To authorize the issuance and awarding of degrees by any "person, corporation, association, or institution." (75-108).

16. To erect, manage, and control self-financing facilities (75-201), and to borrow money, "pledge, issue notes, bonds, or other securities" for these purposes, with all such obligations payable solely from the sources outlined. (75-202, 3, 4, 5, 6).

17. To determine "the need for all expenditures and control the purposes for which all funds . . . shall be spent" (subject to the state purchasing agent and certain powers of the Board of Examiners). (75-310).

18. To prescribe "powers and duties of the president, faculty, officers" etc., and to issue rules "for the proper government and control of the University of Montana and its said component institutions." (75-403).

19. To grant diplomas and degrees "upon the recommendation of the faculty . . ." (75-404, 406). (A repeated grant of authority).

20. ". . . to prevent unnecessary duplication of courses, . . . to investigate carefully the needs . . . with reference to buildings, equipment, and instruction." (75-405).

TABLE 11.

PRESENT FUNCTIONS
MONTANA STATE BOARD OF EDUCATION

I. *Higher Education.*
  a. A separate State University (Missoula)
  b. A separate Land-Grant College (Bozeman)
  c. A separate (College) School of Mines (Butte)
  d. Three State Colleges (Dillon, Billings, Havre)
  e. A central office of the "University of Montana"—Helena

II. *Welfare Institutions.*
  a. Orphans.
  b. Girls' Vocational.
  c. Feeble Minded.
  d. Custodial Juvenile Cases
  e. Deaf and Blind.

III. *Those Related to Public Instruction.*

These grants of power are broad, including the "proper and necessary" clause and a repeated authority to issue rules and regulations "for the proper government and control" of the institutions. They are further buttressed by Article XI, section 12, of the state constitution which declares:

"The funds of the state university and of all other state institutions of learning, from whatever source accruing, shall forever remain inviolate and sacred to the purpose for which they were dedicated. The various funds shall be respectively invested under such regulations as may be prescribed by law, and shall be guaranteed by the state against loss or diversion. The interest of said invested funds, together with the rents from leased lands or properties, shall be devoted to the maintenance and perpetuation of these respective institutions."

The State Board of Education, viewed comparatively with 367 other American state boards which govern state universities, may not be ideal. Yet, it is the institution that has developed, and which may be said to reflect Montana's political geography.

Its powers, while not stated in as comprehensive terms as either the Regents of the University of California (which governs eight or more campuses) or the California State Board of Education (which governs the nine or more California state colleges), are yet adequate.

The Constitution of California provides:

"The University of California shall constitute a public trust, to be administered by the existing corporation known as 'The Regents of the University of California,' with full powers of organization and government, subject only to such legislative control as may be necessary to insure compliance with the terms of the endowments of the University and the security of its funds."

"Said corporation shall be vested with the legal title and the management and disposition of the property of the University and of property held for its benefit and shall have the power to take and hold, either by purchase or by donation, or gift, testamentary or otherwise, or in any other manner, without restriction, all real and personal property for the benefit of the University or incidental to its conduct. Said corporation shall also have all the powers necessary or convenient for the effective administration of its trust, including the power . . . to delegate to its committees or to the faculty of the University, or to others, such authority or functions as it may deem wise."

Studying the California system and commenting on these provisions, the Strayer Committee (state of California) in 1948 said:

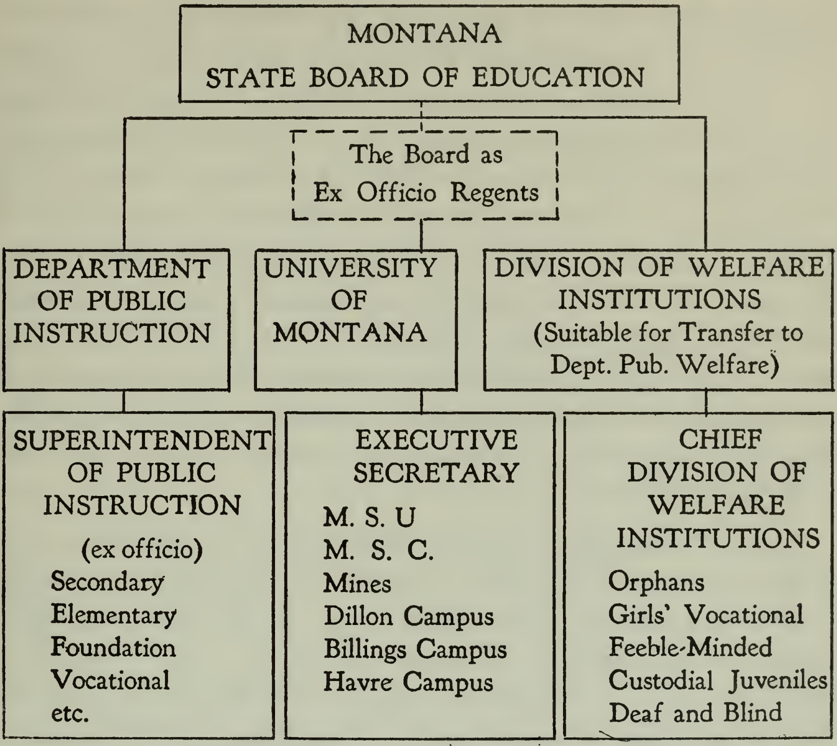
"The large powers and independence thus vested in the Regents of the University account in part for the fact that it is so generally recognized as distinguished among the universities of the United States. In this connection it is interesting to note that no state universtiy is included in the usual lists of institutions distinguished by the quality of their scholarship, research, and professional work, which is not vested by the constitution of its state with authority which gives it considerable independence of the fluctuating political influences of current legislative direction."

Certain adjustments in Montana law can perfect the State Board of Education as a governing instrument for the university system. In the meantime, strong remedies are within the Board's own hands.

If a constitutional amendment should be sought to make the State Superintendent of Public Instruction an appointive, rather than an elective officer, then the appointing and policy-making board for that officer and the State Department of Public Instruction should be called the State Board of Public Instruction, and the governing authority for the university system should be restyled "the Regents of the University of Montana." The precedents for this in other states are clear and overwhelming.

TABLE 12.

Possible Organization (Without Constitutional Change)



The following recommendations begin with the assumption that constitutional change is likely to grow in this direction, and that statutory and rule-making measures may well anticipate such a development.

RECOMMENDATIONS RESPECTING THE GOVERNING BOARD

1. The Superintendent of Public Instruction should seek legislation establishing a State Department of Public Instruction, of which the Superintendent shall be the Department head; with the mission, structure, and administrative duties of the Department broadly outlined, and its relations with the present State Board of Education clarified and confined to non-University, non-welfare items. The administration of the state "founda-

tion program" alone, marks such a department for major importance in the state government. If constitutional change and separate boards follow, the way will have been cleared for orderly development of both the University and the public school systems.

2. The five non-University institutions should be transferred by the legislature from the State Board of Education and their control vested in the State Board of Public Welfare, as a "Division of Welfare Institutions" within that department. If by any conceivable stretch of the imagination these five institutions are viewed as "educational institutions" under the "general control and supervision" of "a State Board of Education," and under Article XI of the Constitution not subject to transfer, it must simply be pointed out that "the powers and duties" of the Board by the same constitutional provision "shall be prescribed and regulated by law."

3. To distinguish, clearly, the role of the State Board of Education to the university system, as contrasted with other educational matters, the legislature by statute should provide that the State Board of Education is *ex-officio* the "Regents of the University of Montana," and should enact this style for the Board sitting in this capacity. The legislature should constitute them a body corporate and politic, with perpetual rights of succession, under the general laws of Montana, to own, acquire by gift, bequest, and other device, and control the properties of the university system. The "Board of Regents" should avoid confusion, pending future change, with the educational activities of the "State Board" and "Department of Education." All other American state universities enjoy corporate status, either under constitutional or legislative provision, except in Connecticut, Georgia, Iowa, Kansas, North Dakota and Oregon.[8] These five, however, maintain either fully coordinated or consolidated administrative systems of higher education.

4. The Governor, by statute, serves as "president" of the

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[8] *Higher Education in the Forty-eight States* (Chicago, 1952), Table 66, pp. 258-259.

Board (75-104), the Superintendent as "secretary thereof," and the State Treasurer as "treasurer of the board." (75-104)

It is recommended that the position of the Superintendent be that of Secretary for the Board sitting only with respect to the Department of Public Instruction, in matters where the Superintendent is also the chief administrative officer. The Executive Secretary of the University of Montana should serve as Secretary of the Board in University matters.

5. Title 75-104 of the R.C.M. should be amended to relieve the Governor of the obligation to serve as the active presiding officer of the Board, and to provide that the members of the Board, as Regents, be empowered to select annually, a chairman and a vice-chairman. This may be done by simple amendment to R.C.M. 75-104, adding the sentence: "The Board may also elect a chairman from among the appointed members, and such other officers as may be necessary for the effective administration of the university system." To this should be added: "The Executive Secretary of the University of Montana shall serve as the Secretary for the Board sitting as the University Regents." This will avoid some overlapping in responsibility and function. It will also enable the Governor to "preside" as "president" when he is able to be present but with active responsibility vested in a layman who has not the burdens laid on the governorship of Montana.[9] The *ex officio,* ceremonial, interstate committees, public conferences, and personal appearance obligations of the governorship tend to crush and limit the effectiveness of the main job, namely, being governor.

6. The Legislature should review the administrative performance of the Board under these broad statutory changes, and then consider whether the Constitution, Article XI, section 11, when other amendments are being examined, should be amended to read:

> "Section 11. The general control and supervision of the University of Montana shall be vested in a Board of eight

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[9] The University of California Board of Regents utilizes this arrangement.

> Regents, appointed by the Governor subject to the confirmation of the Senate, for eight year terms, each to commence the first day of July in successive years, according to law. The University is hereby constituted a body corporate and politic and its establishment, with all the rights, immunities, franchises and endowments heretofore granted or conferred are hereby perpetuated unto it under the control of said Regents."

Such a provision would tend to insure, for the people of Montana, a strong and vigorous university system, in the pattern of the more distinguished institutions of the Western World; with recognition of the inherent capacity of such institutions to be partially self-supporting in addition to seeking the annual or biennial appropriations made by successive legislatures.

7. Higher education deserves the best strength and leadership available for its nurture, regardless of residences. In the long run membership will naturally reflect residence in various parts of the state.

The informal "custom" "prohibiting" the appointment of members of the Board from any of the university-campus cities has basis in experience. However, it is time for all Montanans to look at the university system as a matter for Montana as a whole. Montana State University and Montana State College are not "Missoula" and "Bozeman" institutions. They belong to the people of Montana. It would be well to look forward to the time when, if the best available appointee for a vacancy in the Board lives in Billings, Havre, Butte, Missoula, Dillon, or Bozeman, viewing the welfare of the University and state as a whole, that such a person could be appointed. The measure of his success as a Regent would be his devoted service to the University of Montana, not to any single city or campus. Evidently the force behind the existing law and custom is that in the past, local interests and pressures have blinded the larger view to the point that governors, in their wisdom, have avoided Board appointments from the university system towns. No legislation is needed on this point. The issue rests with the political maturity and wisdom of succeeding governors and those they may appoint.

8. Whenever "executive board" appears in the statutes, the phrase should be changed to read "local advisory board" in the case of the six university units, especially in 75-302.

9. If recommendations offered in relation to financial administration are received favorably (see Chapter IV), the Legislature should consider striking everything in 75-310 *after* the first sentence, with respect to the authority of the State Purchasing Agent and the Board of Examiners.

10. If no action is taken with respect to item 9, the following phrase should be eliminated from 75-310, in any event, so far as the university units are concerned:

> ". . . but said Board of Examiners shall have authority to confer upon the executive boards of such institutions such power and authority in contracting current expenses, and in auditing paying and reporting bills for salaries or other expenses . . . as may be deemed by said State Board of Examiners to be to the best interest of said institution."

The foregoing provision is clearly contradictory of the position of the Board of Education.

RECOMMENDATIONS RESPECTING THE BOARD AND ADMINISTRATION

A. The Rules and Regulations for the government of the university system should be codified, printed, and kept up to date by the Board. Failure on the part of the Board to do so invites constant political interference. The task should be assigned to the Executive Secretary and a draft prepared at once. The title should be 'Rules and Regulations Governing the University of Montana."

B. The rules should contain provisions covering the duties, authority, and responsibility for the following:

1. *Board organization, committees, and procedure.* Provisions for the following should be included:

a. A Chairman and Vice Chairman from among the appointed members. The Executive Secretary should serve as Secretary of the Board acting as University Regents.

b. The Board members should view themselves as Regents of the University of Montana. They should delineate carefully, in anticipation of statute and constitutional changes, their own rules with respect to (1) public instruction and (2) welfare institutions.

c. The Executive Secretary as executive officer of the Board for higher education.

d. Role of the Committees: Budget (Statutory), Buildings and Grounds (or Physical Plant), Faculty and Personnel.

e. Other provisions to clearly provide activity for the Board and its Committees as *policy-making* and *policy-review* bodies. (The Board now receives and may concern itself with too much detail).

2. *The Executive Secretary and the Executive Secretary's Office*. The administrative, financial (including budgeting, accounting, reporting) and other duties should be clearly defined, recognizing the Executive Secretary as the executive officer of the Board for the University of Montana.

3. *The Advisory Council of Presidents*. This group, formerly styled "the Executive Council" should function under the permanent chairmanship of the Executive Secretary. It should be advisory to the Executive Secretary, and through him, to the Board. All items suggested from any president for the Board agenda, for either regular or special meetings, should be presented first to the Executive Secretary. Agenda for both Advisory Council or Board meetings should be established and compiled by the Executive Secretary, who should also have full authority to place any item on the agenda of either the Advisory

Council or the Board; and who should be responsible for presenting all items to the Board, with such assistance from the presidents as he may find necessary and desirable.

4. *The educational mission and purpose of each of the six units.* This provision, supplementing the statutes, should also recognize procedures for program adjustment.
5. *The authority and duties of the presidents at each of the six units.* (Supplementing R.C.M. 75-408).
6. *The authority and duties of the general campus administrative officers,* including deans, department heads, and others.
7. *The authority and duty of the faculties in each institution.* Faculties should carry some responsibility with respect to educational policy, including a delegated authority to make rules and regulations (subject to the approval of the Board) governing admissions, grades, scholastic standards, and graduation at their respective institutions, (See also "C"); and the role of reviewing critically, program development or proposals within their institutions.
8. *The duties of the professional staff, including the various academic ranks.*
9. *Appointments, promotions, and tenure.*
10. *Student organization* (recognition of the Associated Students of each institution).
11. *Alumni organizations* (recognition).

C. The rules should establish the following bodies:

1. *The Faculty Conference of the University of Montana* (an informal, voluntary body). This should be a voluntary association to which all faculty members holding rank would be eligible. Said faculty conference would meet annually in September before school at the call of the Board and Executive Secretary, and by invitation from a host institution (with housing and meals at regular

student rates at campus facilities). It could in a meeting of a day or more, include sections for the discussion of the general theory of the university system; its basic curriculum of general education; teacher education; extension classwork; public and alumni relations; faculty personnel and welfare. General sessions, including an annual fellowship banquet, could be designed to promote understanding (1) of the common problems and diversified roles of the institutions in the system, and (2) of the greater University of Montana.

2. *The University of Montana Faculty Council.* This body, established in 1948, could serve as a steering committee to plan and arrange the annual Faculty Conference with the general cooperation of the Board and Executive Secretary. Modest financial arrangements for conference expenses beyond those of the host institution should be included in the funds appropriated to the office of the Executive Secretary.[10]

   The Faculty Council should represent the faculties in matters of educational policy, for inter-institutional and university-wide affairs.

   The presidents should be ex officio members of the Faculty Council, in addition to the five elected members from each institution. This is important to the discussion of basic policy issues and should be welcomed by all concerned. Free exchange and discussion should not in the least be limited by the presence of the presidents. If any feel they cannot "speak freely" except with presidents absent, there is little hope for the future of American society.

   The Council should meet at least once each quarter, Autumn, Winter, and Spring. The Autumn meeting could be held prior to or in connection with the Annual Faculty Conference. The agenda for each meeting should provide opportunity to:

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[10] In Utah, the institutions provide automobile mileage to faculty members driving cars to the Utah Conference on Higher Education. All other expenses are borne individually.

a. Hear reports from the Executive Secretary and the presidents as to action taken with respect to educational policy by institutions since the last meeting.

b. Receive reports from inter-institutional committees on:
   (1) Basic curriculum.
   (2) Teacher education.
   (3) Institutional studies.
   (4) Other and Special (See below).

c. Review any matters of interest which, under Board rule, have been delegated to the Council or referred to them by the Board; and make recommendations thereon to the Executive Secretary for reference to presidents, faculties, the Advisory Council of Presidents, or the Board.

d. Consider any matter referred to them for study or discussion by the Advisory Council or the Executive Secretary.

The author feels that the recommendation respecting the Faculty Council is simple but, properly developed, can do much as a means of reviewing new academic policy developments.

e. Encourage the printing of an annual faculty bibliography for the University of Montana, to be published by the Office of the Executive Secretary. (Possibility of an annual panel at the Faculty Conference critically reviewing the research output within the University system during the preceding year might also be considered as a feature of the Fellowship Banquet. Also, the possibility of an annual "University of Montana Faculty Research Lecture," to be offered by a distinguished member of the faculties, and published there-after, as a regular feature of the September Faculty Conference, might be considered.)

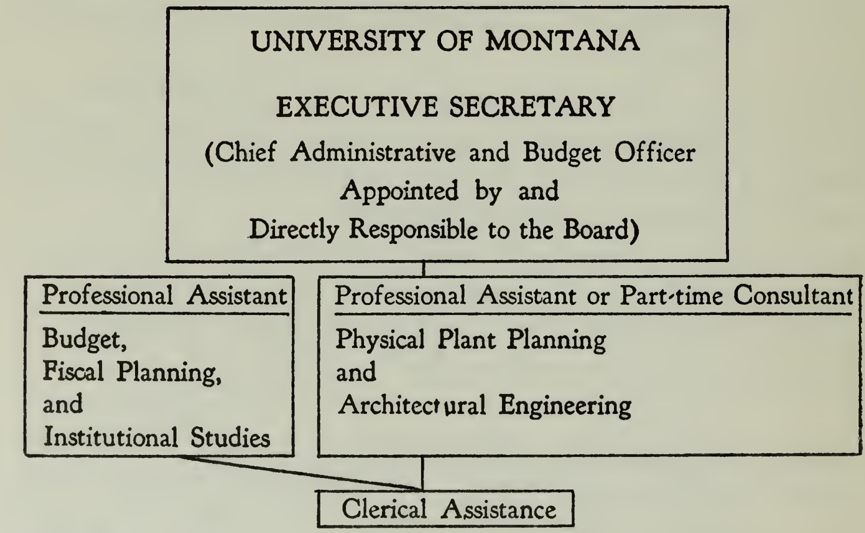
3. *The Inter-institutional Committees.* These should continue as presently organized. The following committees should report directly to the Faculty Council as suggested above:
    - a. Basic Curriculum.
    - b. Teacher Education.

    The Committee on Institutional Studies should serve jointly the Advisory and Faculty Councils, receiving its assignments primarily from the Advisory Council.

D. It bears repeating that the Board should implement its statutory duty by formalizing in rule and in policy the position of the Executive Secretary as its duly authorized administrative officer in University matters.

TABLE 13.

POSSIBLE ORGANIZATION OF THE OFFICE OF THE EXECUTIVE SECRETARY



E. The Board should view the selection, recruitment and appointment of the Executive Secretary as its most critical and significant function so far as the University system is concerned. It should consequently expend the pains, time and energy required for this infrequent but critical task.

F. The Board should recognize the Executive Secretary not only as its chief executive officer, but as its policy adviser on overall University matters.

G. It has earlier been recommended that the Legislature should consider organizing the administration of the Deaf and Blind School, the Industrial School, the State Orphans' Home, the School for Girls, and the State Training School under the State Board of Welfare as a Division of Welfare Institutions. Educational features of their programs need not be jeopardized. At the present, the State Board of Education should, for basic administrative purposes, refer all matters concerning these institutions to the Welfare Institutions' Budget Committee, and restyle this Committee for board purposes as the "Budget Committee on Welfare Institutions."

H. The Board, as Regents, should instruct and require the Executive Secretary as its chief administrative and fiscal officer for higher education, to establish such central accounts, system of reporting, pre-audit, budgeting, controls, and purchasing, as will insure for the University system the responsibility and flexibility, as will promote its economy and efficiency of operation, and safeguard its reputation. In the Oregon system, these offices are found on campuses at Eugene and Corvallis, rather than the State Capitol at Salem.

The State Board of Examiners should recognize the strengthened Board, as Regents, and its Executive Secretary, as being fully-capable and responsible for maintaining an effective University fiscal system. The state may then fully rely on the post-audit, and the Board of Examiners recognize, that the detailed means for accomplishing its constitutional responsibilities are solidly in the hands of the State Board serving as Regents. Under general rules, the Examiners should, if necessary, rather than approving claims directly, delegate such a role to the State Board of Education sitting as the University Regents. The Board of Examiners, by means of its interlocking membership on the Regents of two members, and by means of more formal reports, may satisfy itself that a really first-class administrative mechanism is operating, subject to a new and improved continuous post-audit. The constitutional prerogatives of the Examiners will be fully served, perhaps more so than in those states where they have practically abdicated to modern finance departments. There will be economies and efficiencies to the state, subject always to legislative enactment of its appropriations, broad supervision of the Examiners, and the post-audit, under this system. Within the limits assigned by law and finance, the University can flourish under its board and serve the people of Montana.

A NOTE ON THE CHANCELLORSHIP

A special note needs to be made of the work of Miss Dorothy Green, the last "acting Chancellor" (1950-51) of the Montana system, and since that time its Executive Secretary. The "Chancellor" system has earned a great deal of undeserved abuse in some quarters in Montana. This may have been because of the "Chancellors" rather than the "system." However, it is clearly evident to an outside observer that the coordination of the system, even some operations at campus levels, presupposes the Chancellor system. The Executive Secretary, the six presidents, and the Budget Committee in 1958 are doing what the chancellorship presupposed, 1913-1950. In the universities of North Carolina and California such an officer is called "President" with "Chancellors" or "Provosts" on the separate campuses.

In Montana, from 1913 to 1950, the strength of local factions, pressures, (especially in the early years of growth and development), obscured in many minds the desirability of coordination. The institutions have now matured. They have come of age. The citizens of Dillon, Bozeman, and Missoula have learned that the world does not end during a legislative appropriation crisis; that the institutions go on.

The best outlet for local pride in the closing decades of this century, the permanence of the institutions being assured, is evident concern for higher education itself. If any forces, for political or economic reasons, want to keep higher education weak in Montana, they should oppose coordination, keep the system competitive, divided, at cross purposes, and turned against itself. So, the system's fair share of the tax dollar may be eroded away by the more unified approaches of highway, welfare, health, and public school "foundation" programs. Those who can appreciate the facts which confront state governments, tax revenues, and legislatures, and who envy for higher education its just role (no more, no less) in the state, had better concern themselves with a more perfectly coordinated state system. The eventual return of something like the chancellor system to Montana, a unified presidency for the "University of Montana" as such, or other device, may, therefore, herald whether or not the future of state-supported higher education is to be properly strong, or improperly weak. The signs are on every hand. They appear in legislative workshops, in studies going forward in neighboring states.[11] Higher educational finance as a Montana problem is the long-range political and economic justification for building more strength into the future office of the Executive Secretary.

The question for thoughtful Montanans inside the university system, reviewing the experience of the past, and understanding the quiet, but nonetheless critical role of the office since 1951, may well be: After Miss Dorothy Green, *What?* Will the true benefits of the 1913 experiment be extended, now that its dross has been eliminated and burned out? Or will an uncoordinated era of new educational and political rivalries develop? The answer is dictated by the requirements of state finance and the answer to the last question should be "no."

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[11] See the Council on State Governments, *Reports on Higher Education, An Annotated Bibliography of Recent Reports of State Study Commissions and Other Official Agencies*, 15 pp., mimeo., Chicago, March, 1958.

CHAPTER III.

FINANCING HIGHER EDUCATION IN MONTANA

THE PLACE OF HIGHER EDUCATION IN STATE BUDGETS

Higher education has come to occupy the largest single place in the budgets of most state governments. The reasons are plain. The state governments bear full constitutional responsibility for the maintenance of higher education in an age when the security of the nation depends on the fullest development of its intellectual resources. This chapter deals with how Montana spends its money, in terms of academic programs within the University, rather than how the money is or should be raised. The revenue questions are the province of another study, that of the Taxation-Education Commission. Accordingly the chapter title may seem misleading. However its use is justified on the grounds that University finances have their root, so far as expenditures are concerned, in academic programs. If programs and instructional costs are more nearly understood, expenditures can be more intelligently justified, approved, and revenues supplied or withheld.

The three main functions of state government today are education, welfare, and highway administration. A close fourth is the field of health. By and large, in contrast with these areas, higher education has subsisted without major federal aid. Despite the Morrill Act of 1862 and its like, federal aid for state highways and state welfare far outshadows grants for basic higher education. If this pattern continues, obviously the state governments and legislatures must look upon the financing of higher education as a major responsibility. If the Defense Education Act of 1958 is followed by other congressional action; or, if the highway or public assistance matching-pattern should ever be duplicated in state university systems, the role of the states would still be primary.

It is proper for a state legislature to manifest concern over the constant rise in expenditures for higher education. However, when these expenditures are interpreted in the light of population growth, inflation, capital growth in the economy generally, per capita income, and other indices, and, when it is observed that the percentage of national and individual income applied to higher education has not shifted greatly over the past years, it is clear that past increase in dollar amounts should not be unduly alarming to either taxpayers, the legislature, or the people generally.[1] As the Governors' Conference on Higher Education in the Forty-Eight states concluded in 1952, "public demand for the services provided by institutions of higher education will continue to mount; expenditures of institutions of higher education will continue to increase." Furthermore, "Public funds will continue to supply the major share of income received by institutions of higher education." It will bear repetition that the consequence of these two findings was a conclusion that:

> "*Close coordination of programs and activities of state institutions of higher education is urgently needed in order that available resources and facilities may be utilized most effectively.*"

A report of the Montana Taxpayers Association has indicated that in 1957 the higher education request was 179 per cent over that of 1955. The amount appropriated on the basis of these requests was 110 per cent over 1955. The 1957 Legislature's action was in response to an unusual request made earlier by the university system, re-emphasized in 1957. It was necessary, they said, to increase the appropriations in order to bring faculty salaries and certain operating costs into line with the average of comparable institutions. The Montana Legislature took a bold step in responding courageously to this request.

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[1] See Appendix III-C.

PRODUCTION COSTS AND ACADEMIC OUTPUT

In future planning, such items as space utilization, student credit hour costs (unit costs of production in various departments), as well as faculty and enrollment figures, may be utilized by the central staff, the institutions, and the board of education in formulating presentations for the legislature. For the purpose of "measuring economy of operations, the most relevant are those that show efficiency of use of faculty manpower," with the average student credit hours (SCH) produced per full time equivalent (FTE) faculty member as the "best single measure of efficiency."[2] It is also useful for a college administration (especially in a complex institution) to understand why it may cost $6 a credit hour to produce a unit of mathematics compared with $40 in chemical engineering or some other expensive field; or, that math professors are producing 800 SCH per FTE compared with 126 in bacteriology.

As a part of my study in the summer of 1958 the request was made for a student-credit-hour-cost study by the university's institutional research committees. Sample materials from the New Mexico Board of Educational Finance were made available to the chairman. The results, although admittedly "rough" statistically and subject to reinterpretation, are suggestive of future utility.[3]

Utilizing the "rough" data and the hypothesis of the average SCH produced per FTE faculty member, "the most efficient" unit of the University of Montana in 1957-58 was Eastern,

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[2] John Dale Russell and James I. Doi, "Analysis of Expenditure for Instruction," *College and University Business* (July, 1956), pp. 43-44.

[3] Dr. Layton Thompson of M.S.C., one of the State's competent statisticians, and Chairman of the Inter-U Institutional Research Committee, has written: "I must confess that I have found this (the SCH-FTE cost study) to be an interesting assignment, and I would think these data would be most useful to the administration if they can be interpreted."

TABLE 14.

TOTAL OPERATING COSTS PER STUDENT CREDIT HOUR
(Every Expenditure Excepting Non-Recurring Capital Items)
UNIVERSITY OF MONTANA 1957-58 (Rough)

Unit	Student Credit Hours	Total Costs (Budgets)	Total Costs Per S. C. H.
Montana State University	140,986	$3,590,805	$25.47
Montana State College	187,253.5	3,685,693	19.68
Montana School of Mines	8,202	481,089	58.66
Eastern Montana College of Educ.	44,610	847,789	19.00
Northern Mont. College of Educ.	27,817	528,565	19.00
Western Mont. College of Educ.	19,300	350,579	18.16
All Units	428,168.5	$9,484,520	$22.15

Source: Inter-Unit Institutional Research Committee University of Montana. Figures for total operating costs were taken from budgets revised and approved by the Board of Education, April 14, 1958. The Committee feels these data are "rough" because of comparative and other statistical reasons. M.S.C. for example does not give a specific amount of credit for thesis registration — and 72 master degrees and 5 Ph.D's were conferred there in June.

TABLE 15.

INSTRUCTION COSTS PER STUDENT CREDIT HOUR
(FROM DEPARTMENTAL BUDGETS ONLY)
UNIVERSITY OF MONTANA 1957-1958 (Rough)

Unit	Student Credit Hours	Total Costs (Budgets)	Total Costs Per S. C. H.
Montana State University	140,986	$1,959,265	$13.90
Montana State College	187,253.5	2,122,962	11.34
Montana School of Mines	8,202	292,681	35.68
Eastern Montana College of Educ.	44,610	344,041	7.71
Northern Montana College	27,817	286,016	10.28
Western Mont. College of Educ.*	19,300	159,979*	8.29*
All Units	428,168.5	$5,164,944	$12.06

Source: Inter-Unit Institutional Research Committee, University of Montana. Figures for Departmental Costs were taken from budgets revised and approved by the Board of Education, April 14, 1958. The Committee feels these data are "rough" because of comparative and other statistical reasons.

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*The budget costs from Western include salaries only, whereas the other unit costs include all items in departmental budgets as revised and approved by the Board, April 14, 1958: salaries, plus departmental supply and expense.

with Montana State College a close "second."[4] It is not fair, of course, to compare such widely differing institutions.

Montana State College, currently the largest and the most complex institution of the system, produced 832 SCH per FTE at the modest cost of $19.68 per SCH, $11.34 of which was for instruction. This figure becomes impressive when it is realized that 72 masters, and 5 Ph.D. theses were completed, involving another 8-900 SCH not counted and not included under current M.S.C. practice.

The following tabulation lists the six Montana institutions from the standpoint of SCH produced per FTE in 1957-58 as "roughly" available from this initial study of the Committee:

1.	Eastern	841.7
2.	M. S. C.	832.2
3.	Western	772.0
4.	Northern	751.8
5.	M. S. U.	526.0
6.	Mines	273.4

In New Mexico, the preceding year of 1956-57, the State University at Albuquerque led in SCH per FTE — a function of an 11.4 hours per week average teaching load for its faculty, with a weighted average class size of 22.7.[5] The order of the six New Mexico schools (Military Institute omitted) was as follows:

	SCH per FTE 1956-57	(Hours per week) Average Fac. Tchg. Load
1. U. of New Mexico	778	11.4
2. Eastern N. Mexico	762	14.0
3. N. Mex. A. & M.	696	12.7
4. Western N. Mexico	657	14.1
5. N. Mex. Highlands	562	13.1
6. N. Mex. Inst. of Mines	562	11.9

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[4] The author accepts the fact that the SCH data used herein are "rough" but justifies their use merely to illustrate scope and size of programs as one of the best available tools; and one heretofore little used in Montana. The "SCH" data cited and used throughout this section and those which follow are therefore subject to many refinements.

[5] New Mexico Board of Educational Finance, File 21-21, December, 1957, Table 204.

From the standpoint of SCH costs for *overall* operation (exclusive of capital outlay) the Montana institutions in 1957-58 showed:

1.	Western	$18.16
2.-3.	Eastern (rounded)	19.00
2.-3.	Northern	19.00
4.	M. S. C.	19.68
5.	M. S. U.	25.47
6.	Mines	58.66

In terms of instructional cost only the order was:

1.	Eastern	$ 7.71	
2.	Western	8.29	(instructional salaries only)
3.	Northern	10.28	
4.	M. S. C.	11.34	
5.	M. S. U.	13.90	
6.	Mines	35.68	

These standings are about what should be expected. Eastern and Western *should* be the low-cost institutions. They have homogenous programs, basic two-year and undergraduate emphasis. Northern's vocational-technical program adds to its cost. One could expect higher costs at M.S.C. The reverse situation here undoubtedly reflects smaller classes, more FTE staff, with less overall enrollment at Missoula during 1957-58.

The School of Mines costs are, of course, highest of all. Montanans must recognize the Butte campus as its high cost school. Institutions, especially institutions across state lines, cannot be compared accurately. The following reference to the New Mexico Institute of Mining and Technology should therefore not be misunderstood. It reflects merely what happened in another state. In 1956-57, New Mexico Mines produced 7,333 semester hours. This equals 10,999 quarter hours (10,999 SCH). Montana Mines, in quarter hours produced 2,797 fewer, or 8,202 SCH. The New Mexico school produced its 10,999 SCH with 19.53 FTE faculty, or 562 SCH per FTE. The Montana institution, with 30 FTE produced 273 SCH per FTE. At New Mexico the bulk of its SCH was produced in Chemistry, Geology, Mathematics, Physics, Metallurgy, Mining, and Petroleum Engineering, subects similar to the curriculum at Butte.[6]

The following table again, should not be used to "rate" and "compare" because the data are rough and the institutions are comparable only in broad function. Its utility lies in the general interest this particular methodology creates in reviewing academic programing, staffing, consolidation of curriculum, and

TABLE 16.

INSTRUCTIONAL SCH COSTS AND PRODUCTION PER FTE FACULTY MEMBER

Montana 1957-58 and New Mexico 1956-57
(Basis: Quarter Hours)

Note: SCH Costs for the New Mexico system are for *instructional salaries* only. Montana SCH costs are for instructional salaries *and other expenditures from departmental budgets* except in the case of Western.

Institution	FTE Faculty	SCH per FTE	Instructional (or salary) Cost per SCH
Montana St. U.	268	526	$13.90
U. of New Mexico	250	778	11.32
Montana St. College	225	832	11.34
New Mexico A & M	125	696	12.87
Eastern Montana	53	841	7.71
Eastern New Mexico	66	762	10.11
Northern Montana	37	751	10.28
New Mex. Highlands	54	562	14.61
Western Montana	25	772	8.29
Western New Mexico	34	657	11.81
Montana Mines	30	273	35.68
N. Mex. Mines, etc.	20	562	16.36

Sources: File 21-21, 21-31 New Mexico Board of Ed. Finance, Dec., 1957, and Institutional Research Committee, University of Montana, July 21, 1958.

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[6] New Mexico Board of Educational Finance, File 21-21, Dec., 1957, Table 203.

so forth.[7] It should also be remembered that the New Mexico data reflect five years of institutional adjustment to the budgetary controls, the statistical measurement, and methods of Dr. Russell as Executive Secretary of the New Mexico Board of Educational Finance.

The Montana institutions produce values beyond SCH and beyond price. They defy measurement. Any of the western states could be proud to claim a unit of the University of Montana, could it be magically transplanted. The author's first visit to a Montana campus was in 1940, as a faculty member from another college. Since then all but the Havre and Billings campuses had been visited, most recently in 1949. The changes seen in 1958 were impressive. Montana State University has one of the most attractive settings (disregarding the approach from the river, past the fieldhouse gravel and dust) of any university in the west. Certain features of intellectual charm, such as the Alumni House and the Law House, have been added in recent years. They bespeak vision, careful nurture, cultural aspiration for the people of Montana; educational efforts toward quality-competition with the finest elm-lined campuses of east or west. The library, as remodeled, is one of the most convenient to work in to be found in any of the western states. The Bozeman campus, with only slightly less elegant possibilities in its setting, speaks the solid strength and aspirations of the great land-grant tradition. Montana Hall sits astride the hill as if to symbolize the "liberal *and* practical" phraseology of the Morrill Act of 1862. First-time visits to the Billings and Havre campuses in 1958 produced a feeling of surprise that these units were so well situated and so well equipped. The older campuses at Butte and Dillon, more familiar to the author, also revealed signs of steady progress, but also wise restraint in recognition of their limited roles and functions.

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[7] The author is aware of the numerous qualitative and other objections that can be raised against this method The ultimate justification for any university operation is the ideal and social utility of the search for knowledge — not "SCH" but "SCH" help the practical taxpayer and legislator see one aspect of what they receive for their investment.

In the final analysis, if no SCH were produced, no courses taught, no new skills, insights, creativity, nor imagination generated in thousands of young people's spirits, the investment could not be said to have been wasted. To have and maintain in Montana the companies of scholars, so gathered, expresses one of the finest goals of our way of life — the search for truth. Fortunately, however, students are there. The entire population feels influence. The six campuses are not fifth-century Mediterranean monastaries nor 20th-century Asiatic lamaseries. They are living, vital educational institutions. They are like the clouds that make the rain, without which, seeds wherever planted cannot grow. This, too, must be remembered: Cumulus, cirrus, and nimbus clouds are all different. Like the six campuses, some are better for certain academic rain than others. Let us then look further, if briefly, at academic programs.

PROGRAM ANALYSIS: THE QUESTION OF DUPLICATION

A University system constantly expands. With the exception of work leading to doctorates in human medicine, veterinary medicine and other highly specialized graduate areas, a degree candidate in Montana can secure a Bachelor's or Master's degree in any of the basic academic fields known to American higher education. Through Montana's membership in the Western Interstate Commission For Higher Education, specialties are available by means of interstate cooperation.[8] In Montana not every specialized four-year curriculum is available. To attempt to so provide would be foolish.[9]

The question of serious and costly duplication of work in the Montana system has been kept within reasonable bounds.

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[8] See G. Homer Durham, "WICHE; An Experiment in Interstate Cooperation and Regional Planning," *Western Political Quarterly*, Vol. X, pp. 692-700 (September, 1957).

[9] See "Summary of Four-Year Degree-Granting Curricula offered by Universities and Colleges in the United States and by the Six Units of the University of Montana, 1957," a project of the Inter-Unit Institutional Research Committee, Dr. Layton S. Thompson, Chairman. A later 1958 committee project showed 91 bachelor's curricula, 62 master's, and 10 doctorate fields in operation.

Credit for this belongs to the unified Board-Chancellor system established in 1913, and, to the efforts of the Board, the Executive Secretary, and the six presidents since 1951, to keep logically within the paths charted earlier.

Duplication of work within the several institutions is not nearly so apparent in Montana as the fact that the state has duplicate institutions! On grounds of *radical planning to eliminate duplication* all six institutions, theoretically, could be combined into one at Missoula or Bozeman. Or the three Colleges (Western, Eastern, and Northern) could be dissolved leaving Billings to be served by Rocky Mountain; and, transferring Eastern's program, with that of Western and Northern, to either Missoula or Bozeman. Or these three could be re-made into junior colleges, feeding the larger units. Or, the School of Mines, could be closed and its work transferred to the engineering program at Bozeman! But, such radical steps are impractical.

Future problems of duplication are policy and administrative matters for the Board and administration to adjust. Future problems are here. A whole barrage of possibilities inhere in the Defense Education Act of 1958, signed by President Eisenhower September 2, 1958. Let us here briefly outline two older problems. The first will reveal something about "duplicate institutions" and "duplicate work" in teacher education. The other will outline as an example, a subject matter illustration, geology. Geology has been selected because (1) it has justifiable place in a basic college curriculum; (2) it involves a major field for baccalaureate and advanced degrees; (3) it has relationships to professional advanced work or advanced supporting fields; (4) it is a subject from which other professional advanced work stems and grows, for example, geological engineering.

THE QUESTION OF DUPLICATION OF INSTITUTIONS AND TEACHER EDUCATION

An interesting fact revealed by the method of SCH production is the relationship five units bear to each other in teacher education. Montana State College's Division of Education in 1957-58, was the principal producer of student credit hours with 19,515.5. This was nearly 39 per cent of the total university system production of 50,183.5 SCH in this field. The Division total however included Music, Psychology, Physical Education and others, with only 5,785 in the "department" of Education as such. Subject to such limitations of comparison, the relationships in the Montana teacher education field, 1957-58, were as follows:

	SCH Produced Teacher Education	Per Cent (Rounded)
1. Montana State College ("Division")	19,551.5	39.0
2. Montana State University ("School")	11,214	22.3
3. Eastern ("Department")	11,202	22.3
4. Western ("Department")	4,713	9.4
5 Northern ("Department")	3,503	7.0
	50,183.5	100.0

The distribution of degrees in Education for 1956-57 as reported in a memorandum from the Executive Secretary, shows a different relationship. Viewed against the SCH table, this could indicate a ground swell of enrollment in education at M.S.C. which had yet to reveal itself in degrees actually conferred.

DEGREES CONFERRED IN EDUCATION, 1957

	Total	Masters	Bachelors
1. Montana State University	131	56	75
2. Eastern	100	17	83
3. Western	66	7	59
4. M. S. C.	54	12	42
5. Northern	37	0	37

If it should be argued that teacher education be consolidated in one institution, it must be remembered that Montana has decreed otherwise.

The state has these five institutions plus the School of Mines. Their coordination is more practical than their consolidation. But creation of *new* institutions or *new* multiple programs is clearly not warranted. The challenge of coordination is to utilize the existing institutions in sound future planning.

THE QUESTION OF DUPLICATION OF WORK AMONG THE INSTITUTIONS —

THE CASE OF GEOLOGY

Geology is taught at all six units as follows, in rank order of the scope of the current catalog offering:

	Number of Courses	Maximum Credits Available (Quarter Hours)	Degrees Conferred 8-Year Period 1950-57	
			Masters	Bachelors
1. M. S. U.	38	181	9	74
2. Mines	25	80	3 (+ 11 in Geo. Eng.)	0 (+ 79 in Geo. Eng.)
3. M. S. C.	12	52	No Major Available	
4. Eastern	1	5	(One service course only available in General Science Basic Curriculum)	
5. Western	1	4		
6. Northern	1	4		

The so-called "duplication" at the three small colleges is not duplication, but a single course feature of the basic curriculum taught by general science instructors. The real question of duplication, if any, exists between the School of Mines, the Bozeman, and the Missoula campuses. The Missoula offering is obviously extensive. Service offerings at M.S.C. seem justifiable, as long as no major, advanced work, or degrees appear to be involved. The SCH produced in geology 1957-58, with cost per credit hour, and departmental outlays between the three "geology" schools were:

	SCH	Salaries and Departmental Expenses	Unit Cost
1. M. S. U.	2398	$60,100	$25.06
2. M. S. C.	1795	16,513	9.20
3. Mines	1014	24,080	23.75

M.S.C. offers geology in connection with an approximately equal number of courses in geography. The total SCH in both was 3591, and the departmental expense $33,025. The M.S.C. figures used are half the total of the combined geography-geology program.

With M.S.U.'s degree-conferring leadership in geology, there can be little question of the utility of its program. The School of Mines can hardly exist without geology! In the absence of engineering at Missoula, and the 79 bachelors' degrees in geological engineering at the Butte school, 1950-57, it would seem unwise for either M.S.U. or M.S.C. to move towards this latter field. The question of duplication in the earth science field, therefore, seems to be under fair control. Montana State College may have to exercise some wise restraint in limiting its offering to a service program. M.S.U. may also benefit by consolidating its very extensive offering of 181 or so available hours.

Until the state's population passes the two-million mark, these six institutions, plus Dawson and Custer County Junior Colleges, (and perhaps another junior college as and when the two million mark is approached), can suffice to serve Montana's public higher educational needs.

The question for the present, then, is to further understand what *kinds* of institutions these six are and what their potentialities and proper limits may be for the future.

Using the lowest common denominator available, the student credit hours produced in 1957-58, Montana State College is currently the largest of the six. With Montana State University, the two larger institutions produce 77 percent of Montana's State-operated higher education.[10] The rankings that year are as follows:

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[10] In terms of degrees actually conferred, 1950-57, the two account for 86 per cent of all degrees conferred in the system.

Institution	SCH Produced (Rough)	Approximate Per-Cent (Rough)
1. Montana State College	187,253	43.7 plus
2. Montana State University	140,986	33.8 plus
3. Eastern	44,610	10.1 plus
4. Northern	27,817	6.0 plus
5. Western	19,300	4.0 plus
6. Mines	8,202	2 (minus)
	428,168	100.0 (rounded)

THOSE SERVED:

RESIDENTS AND NON-RESIDENTS OF MONTANA

In producing these student credit hours and enrolling 85 per cent of the college load carried by all schools in Montana, what is the relation between resident and non-resident enrollment? That is to say, is Montana investing plant, faculty salaries, and equipment to educate residents or out-of-staters?

This question is not altogether a serious one. Montana is part of the United States. Under the Constitution people move freely from state to state. Social mobility of the population is increasing. People born and raised in Montana move to Oregon and California and enter college. Others move to Montana. Some authorities are of the opinion that out-of-state fees should generally disappear in this country's state universities. However, we still have them. The interest in out-of-state enrollments persists.

The last comprehensive study of the migration of college students was published in 1951.[11] This study showed that more Montana students *left* the state in that year to go to college than students from *other* states came to Montana to study. The in-migration was 1,340. The out-migration was 3,047, an excess of 1709 over the imports. However, the state university system had a net positive balance of 130 students. That is 130 more students came *to* Montana to enter the state system than left Montana to enter *other* state systems. In the field of private institutions, the story was different. Montana's privately controlled institutions showed a net loss of 1837 Montanans who went to Harvard, Concordia, Carleton, Stanford, Mills, or other private schools outside of the state. The "G-I Bill" was operating. Perhaps more would have remained in the Montana private schools than went to Harvard, etc., if G-I subsidization had been absent. (See Table 17).

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[11] U. S. Office of Education, *Residence and Migration of College Students* 1949-50 (1951). (Another study for 1959-60 is now being prepared.)

TABLE 17.

STUDENT MIGRATION—SELECTED WESTERN STATES AND CONTINENTAL U. S., 1949-1950

				Institutions	
	All Institutions			Publicly Controlled	Privately Controlled
States	In-migration	Out-migration	Net in or net out migration	Net in or net out migration	Net in or net out migration
Arizona	3,077	2,288	789	1,948	—1,159
California	15,519	14,622	897	268	629
Colorado	13,153	4,063	9,090	6,909	2,181
Idaho	1,431	4,553	—3,122	—1,426	—1,696
Montana	1,340	3,047	—1,707	130	—1,837
Nevada	557	1,033	—476	53	—529
New Mexico	2,939	2,518	421	1,795	—1,374
Oregon	4,526	4,110	416	546	—130
Utah	5,217	1,792	3,625	2,281	1,244
Washington	6,094	5,830	264	1,296	—1,032
Wyoming	865	1,957	—1,092	—137	—955
Continental U. S.	496,921	496,921			

Source: Council of State Governments, *Higher Education in the Forty-Eight States* (Chicago, 1952), Table 8A, p. 187. Based on the last nation-wide study, U. S. Office of Education, *Residence and Migration of College Students*, 1949-50 (1951).

In Autumn, 1957, the University of Montana units enrolled 7401 residents of the state (87.1 per cent) and 1093 non-residents (12.9 per cent). This shows that the system as a whole has some attraction for outsiders but without losing its essential character.

The Montana School of Mines enrolled 85 or (28 per cent) non-residents out of an Autumn total of 218, with 116 from Silver Bow County.

Eastern's students were largely from the county in which it is located — 66.5 per cent. Eastern, Western, and Northern were nearly 100 per cent filled with Montana residents — 96.6, 98.2, and 99.1 per cent respectively. (See Table 18).

Legislators in Colorado have shown some concern that the University of Colorado at Boulder tends to be a state university for non-residents of Colorado — with half of its students in many fields said to be non-Coloradans. The legislators of Montana need have little fear that this is currently the case in the treasure state.

TABLE 18.

ENROLLMENT: UNIVERSITY OF MONTANA, FALL, 1957 FROM STATE OF MONTANA, LOCAL COUNTY, AND OUT-OF-STATE

Unit	Total Enrollment Fall 1957	From State of Montana	Per Cent From Montana	From Local County	Per Cent From Local County	From Out of State	Per Cent From Out of State
M. S. U.	2893	2381	82.3	358	12.3	512	17.7
M. S. C.	3561	3106	87.2	681	19.1	455	12.8
Mines	303	218	72.0	116	38.3	85	28.0
Western	334	328	98.2	59	21.8	6	1.8
Eastern	880	850	96.6	547	66.5	30	3.4
Northern	523	518	99.1	180	34.0	5	.9
Totals	8494	7401	87.1	1941	22.8	1093	12.9

Source: Compiled from data provided by the Office of the Executive Secretary, University of Montana.

Montana State College

Bozeman, Montana

Montana State College, in its development since 1913, has also become the most complex institution. It maintains the following five "Divisions" (approximate to "colleges" and "schools" in a university, so-called), which interlock with and embrace the Graduate Division. In order of their scope and size in 1957-58:

	MSC Divisions	SCH Produced*
1.	Science (realistically Letters and Science)	109,318.5
2.	Engineering	28,439.5
3.	Education	19,551.5
4.	Agriculture	15,142.0
5.	Household and Applied Arts (now Architecture and Applied Arts)	14,802.0
	TOTAL	187,253.5 (Plus)
	(Rough: Does not include 72 masters, 5 Ph.D. theses)	

M.S.C. has 36 departments of instruction, 67 Baccalaureate degree curricula, 41 B.S. degree fields, 25 M.S., and 9 Ph.D. degree fields at the present time. Its ten largest departments of instruction (SCH basis) in 1957-58 were:

		SCH Produced (rough)
1.	Mathematics*	21,413
2.	English*	17,396
3.	Chemistry	12,236
4.	History and Government*	10,534
5.	Nursing	8,952
6.	Mechanical Engineering	8,704
7.	Economics & Sociology**	8,142
8.	Physics	7,724
9.	Zoology-Entomology	6,919
10.	Botany-Bacteriology	6,514

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*, ** For explanation of asterisks see p. 65.

The Division of Science, which is fundamentally a college of letters and science, produced 58 per cent of the total student hours on that campus in 1957-58, or 109,318 SCH. This was 13,825 more than the College of Arts and Sciences at Missoula with 95,493. The College of Agriculture accounted for about 8 per cent. Those alive today who think of the average U. S. "land-grant college" as an "agricultural school" must catch up with the facts of life. Yet these institutions' splendid services to man's most fundamental and basic industry, agriculture, stand at the core of their educational role. Montana State College undoubtedly aspires to the name "University" as have Utah, Oklahoma, Colorado, Michigan and other "A. and M." schools. These former state "A. and M. Colleges" about 1957 gained such names as "Michigan State University of Agriculture and Applied Science."[12]

At Montana State College eight departments, six of which are in the agriculture field may invite critical scrutiny in showing highest costs of production. They are those ranked 29th to 36th in the table (Appendix III-F-1). For example, Poultry Industry produced 147 SCH at $67.69 each. If "Poultry Industry 101" (4 credit hours), "a survey course dealing with fundamentals of the poultry industry" was the only course taught, and *if* 39 students could be enrolled in one section, this single section could produce the 147 SCH of 1957-58. Enrollment in such a field, of course, will *not* occur in such fashion. The current catalog offers eight courses, five annually. This is undoubtedly the *minimum* offering. This example, when the relation of such a "department" to the chicken and turkey growers and to the Agricultural Extension service is understood, may be most essential to a land grant institution. Consequently and naturally the costs will be high. This illustration may be kept in mind with respect to the School of Mines and some departments at the Missoula campus.

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[12] See Epilogue, on "Change of Names and the Future of the University of Montana."

Montana State University

Missoula, Montana

Montana State University's academic program is organized with three "colleges" (including the administrative device of a "Summer College"), 6 "schools," and a "Division of Public service." In order of size (1957-58 SCH production) they are:

	SCH Produced (rough)
1. The College of Arts and Sciences	95,493
2. The School of Business Administration	15,648
3. The School of Education	11,214
4. The School of Forestry	6,583
5. The College of Fine Arts	4,319
6. The School of Law	2,188
7. The School of Pharmacy	2,000
8. The School of Journalism	1,555
9. The Division of Public Service (Extension, Night School and Religion-self-supporting)	2,641
	140,986

As is true elsewhere, several of the M.S.U. "schools" are much smaller operations than "departments." Increasingly, in recent years, M.S.U. shows definite signs of striving to become a "quality" school, with some resulting misunderstandings.

M.S.U.'s College of Arts and Sciences reflects about 67 per cent of the campus academic output, compared with 58 per cent at Montana State College. Using "schools," and departments of the Arts College as units, the ten largest operations at M.S.U. are:

	SCH Produced (rough)
1. Business Administration	15,648
2. English*	13,581
3. Education	11,214
4. History and Political Science*	10,029
5. Foreign Languages	8,613
6. Sociology, Anthro. & Soc. Welfare*	7,782
7. Forestry	6,583
8. Mathematics**	6,163
9. Psychology	5,884
10. Health and P.E.	5,034

The departments starred with an asterisk occupy parallel places on the two largest campuses (English, History and Government). Those with two asterisks embrace subject matter found in the ten ranking areas of each campus (Mathematics and phases of social science). These showings need not be interpreted as "duplications." They are basic to general studies and are found. in some degree or other, on all campuses. It is the result of having multiple institutions. The unit costs of such departments, enrollments being high, are relatively low.

The department of Bacteriology ($71.30 per SCH for 627 in 1957-58), certain areas in Fine Arts ($49.94), Journalism, Law, and Pharmacy, may invite the kind of review suggested for high cost departments at M.S.C. However, to maintain a professional school requires minimum outlays, no matter what the SCH costs become.

As student interest and demand grows, M.S.U. can consider accepting a limited number of candidates for the Ph.D. work in selected fields. Library facilities are generally the best in the state. Faculty-student ratio is such that in most areas, candidates can be accepted and pursued in the appropriate departments without undue load reduction or additional expense — where students and faculty are really interested. If this interest does not prevail at the outset, no additional amount of faculty, funds, reduced teaching loads, or other adjustments will produce a Ph.D. graduate program. These developments *follow,* rather than *precede,* a successful, young, graduate program.

Montana School of Mines

Butte, Montana

The School of Mines presents its program (see Catalog, 1957-58) through an "Undergraduate College" and a "Graduate School." The former aims at an undergraduate engineering program in five fields:

Metallurgical engineering
Mining engineering
Mineral dressing
Geological engineering
Petroleum engineering

Basic curricula (freshmen and sophomores) are available for (1) mineral engineering (leading to specialization in one of the five emphases), (2) general engineering (for transfer students), and (3) for a limited number of general students.

The Graduate School offers the M.S. in eight areas of mineral engineering: geology, geological engineering, metallurgy, metallurgical engineering, mineral dressing, mineral engineering, and petroleum engineering. Since 1947 the School has conferred about six masters' degrees each year.

It is a high-cost school. It should one day be able to consider an occasional Ph.D. candidate without adding to cost or size of staff, and thus give further justification for its existence. New Mexico Mines does so with a smaller staff.

The humanities (English, languages, and social studies) at the Butte School (1957-58) accounted for slightly less than 25 per cent of the total SCH produced (2049 out of 8202). The small SCH production in physical education (97 only) at $95.83 each is undoubtedly due to small enrollment for credit in that subject, and utilizations of staff load for extra-curricular purposes. (See table in appendix III-F). Four of twelve "departments" produced 64 per cent of the SCH in 1957-58:

	SCH Produced (Rough)
1. Humanities	2049
2. Mathematics	1206
3. Chemistry	1121
4. Geology	1014

The eight others produced less than 1000, ranging from physics (806) through mineral dressing (202) to physical education

(97). Costs have been noted elsewhere, but all Montanans interviewed seemed to have no doubts about their School of Mines. It enjoys considerable reputation in the state as a "quality institution." It also carries on regular services through the state bureaus located on the campus (mining and geology).

Western Montana College of Education

Dillon, Montana

Western Montana College of Education operates essentially through two divisions: (1) Basic Curricula, and (2) Education. It is authorized to confer the following certificates and degrees:

1. Two-year certificate of Business Education
2. Two-year Montana Standard Elementary Certificate
3. B.S. in Elementary and Secondary Education
4. M.S. in Education

Through thirteen "departments" of instruction its academic offerings afford 9 teaching majors, 12 teaching minors, and some 15 pre-professional Curricula.

Sixty per cent of its academic load of 19,300 SCH in 1957-58, was carried in three departments.

	SCH Produced (Rough)
1. Education	4,713
2. Social Science	3,527
3. English	3,450

Only two additional departments produced 1000 SCH or more:

4. Science	1,815
5. Physical Ed.	1,520

In proportion to its annual load, the Summer Quarter at Western is substantial, 3310 SCH, compared with 5195, 5389, and 5406 Autumn, Winter and Spring. This means year-round use of plant and facilities at a load level of approximately 60 per cent of the regular season. This is a favorable condition compared with larger, more complex institutions where a 20 per cent summer school is often welcome.

The highest instructional cost operation at Western is Foreign Language (salaries only): 165 SCH at $22.80. However the total expended for this instruction was only $3,763 — a minimum, yet wise, investment. Instruction based on the 1957-59 Catalog announcements, is limited to simple sequences in German and Spanish.

Eastern Montana College of Education

Billings, Montana

Like Western, academic work at Eastern is offered through basic curriculum and "Teacher Education" divisions. Some eleven departments of instruction are involved. The offering, through current catalogs, appears much more extensive. Ten undergraduate and 6 graduate curricula in teacher education are listed.

The six graduate programs listed are:

1. "Classroom teaching"
2. "Reading"
3. "Special Education"
4. "Elementary Principalship"
5. "Early Childhood Education"
6. "Guidance and Counseling"

Eleven majors and minors in secondary education are also listed, each of which becomes a potential function for a liberal arts degree divorced from teacher education:

1. Biology
2. Business Education (Shorthand and Typing)
3. Business Education (Bookkeeping)
4. English
5. Fine Arts
6. General Science (major only)
7. Health and Physical Education

8. Mathematics
9. Physical Science
10. Music
11. Social Studies
12. Speech Arts (Minor only)

The highest cost instructional area at Eastern like Western, occurs in foreign language — 489 SCH at $13.00 (rounded figure). Sequences in French, German and Spanish are available. No major or minor is offered and the justification for the offering is beyond challenge.

Eastern reported 53 FTE faculty and a production of 44,610 SCH, or 841 SCH per FTE in 1957-58. This was done at an overall cost of $19.00 per SCH and $7.71 per SCH for instruction. About 73 per cent of this production was in the following five departments (71 per cent of departmental costs):

	SCH (rough)	Dept. Expense	Per SCH (rounded)
1. Education	11,202	$ 97,070	9.00
2. English	6,509	60,188	9.00
3. Science	5,837	35,237	6.00
4. Social Science	5,047	28,681	6.00
5. Mathematics	3,930	22,203	6.00
	32,525	$243,379	

The remaining six departments produced about 27 per cent (29 per cent of departmental costs) in order:

6. Business	2,961	24,045	8.00
7. Psychology and Philosophy	2,658	9,084	3.00
8. Health and P.E.	2,629	27,700	11.00
9. Art	1,776	18,247	10.00
10. Music	1,562	15,255	10.00
11. Language	489	6,331	13.00
	12,075	$100,662	
TOTALS	44,610	$344,041	19.00

Northern Montana College

Havre, Montana

Northern adds a third division to the Basic Curriculum and Education divisions found at Western and Eastern. This is a "Vocational and Technical Division." Beginning as a junior college in 1929, and conferring its first Bachelor of Science Degree in 1955, the College at Havre, production-wise, is still fundamentally a two-year school "but on its way." The Basic Curriculum Division accounted for 63 per cent of all SCH produced in 1957-58, the Educational Division 16 per cent, with the remainder in Vocational and Technical.

Northern's name does not include "College of Education." It is simply "Northern Montana College." Its course offerings include the B.S. degree in Elementary and Secondary Education, two-year diploma in Elementary, two-year basic and pre-professional courses, also, one and two-year vocational-technical courses. The latter embrace work in auto mechanics, carpentry, cosmetology, electricity, farm and ranch management, industrial arts, practical nursing, and, are as a group, the most expensive offering. The high cost item in this program was electricity at $37.32 per SCH for 231 SCH in the year examined.[13] Fifteen "departments" produced less than 1000 SCH each. The three departments of Social Sciences (4217 SCH). English (4133), and Education (3503) produced 42 per cent of the college total.

Vocational-technical training generally flourishes in larger centers than the city of Havre. Of its enrollment, however, only 34 per cent came from the local county in 1957-58.

OUT-PUT OF DEGREES

In eight years, 1950-57, the University of Montana system produced 9,503 degrees, approximately 1,200 each year. Montana State College may currently have more students and produce more SCH, but, Montana State University produced fifty per cent of all degrees in the system since 1950 — 4,801 of the 9,503. The Bozeman campus accounted for 36 per cent. Together, the two have produced 86 per cent of the total degrees for which figures are available. This is eloquent proof of the role played at Missoula and Bozeman.

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[13] See table in Appendix III-F.

The rank order of degree-granting for the eight year period 1950-57, is as follows:

1.	Montana State University	4,801
2.	Montana State College (Does not include Ph.D.'s)	3,497
3.	Eastern	424
4.	Mines	349
5.	Western	324
6.	Northern (degrees began 1955)	108
		9,503

CONSOLIDATION OF THE CURRICULUM

Each of the units, in company with all sister institutions in recent times, shows evidence of "scatteration" and proliferation in course offerings. Western's catalog offering in social science shows 43 courses and 9 seminars. All institutions suffer from this malady. In his famous *Atlantic* Article, "Pay and the Professor," (April, 1957), Beardsley Ruml laid the blame squarely on the professors, and showed rather effectively that low university salaries are a direct consequence. A college curriculum no longer exists, he observed, only "a listing of *departmental* offerings from which a selection is made by the student to add up to the requirements for a degree."

Curriculum revision and course consolidation will require a decade of hard work. This is one reason for emphasizing the role of the Faculty Council. Faculties should attack the issue if for no other reason than self-interest.

As a beginning, the basic curriculum committee in Montana should examine all elementary mathematics and English composition offerings. For example the Eastern catalog lists 3 hours of credit for elementary algebra, plane geometry and other high school subjects (often available in college at extra fees and *no* credit), while Montana State College permits no credit. Montana Mines, to its benefit, *has* a praiseworthy, simple but *basic* curriculum in general subjects.

Recommendations: The inter-institutional committee should prepare and submit some uniform general education (basic curriculum) requirements for the whole system to the Faculty Council for review and ultimate adoption by the faculties of the University.

Uniform practice should prevail, at the college level, with respect to placement in freshman English, credit or non-credit arithmetic, and elementary mathematics.

FUTURE DEMANDS AND BUILDING NEEDS

In 1954 the American Association of Collegiate Registrars and Admissions Officers published Dr. Ronald B. Thompson's study, *The Impending Tidal Wave of Students.*[14] This publication, with the American Council's *Call For Action* report,[15] showed that from 1933 to 1953 the number of births in the U.S. had doubled, and that "the burden of educating the unprecedented tidal wave of students when it reaches our colleges and universities will be greater than anything we have been called upon to bear thus far." This was a true report of a national condition. All states and institutions received new stimulation to "plan." New educational arks had to be built by academic Noahs before the flood.

Montana's leaders have been properly stirred by this appeal. In 1956 the previously mentioned report, *The University of Montana: A Statement of Needs,* 1957 *to* 1970, appeared, prepared at the request of the University Executive Council.[16] This study predicted that:

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[14] Committee on Special Projects (40 pp.), October, 1954.

[15] Washington, D. C. (1954).

[16] "Data gathered mainly by the Institutional Research Committees of the Six University Units and Supplemented and Analyzed by A. S. Merrill, Chairman . . ." (Helena, 28 pp., June, 1956).

1. "Registration in the six units will increase from 7400 for 1955-56 to about 21,000 in 1969-70.

2. "Tax money . . . of approximately $21,000,000 per year will be necessary by 1969 to provide for the current operational budget for the education of this group at an average level . . .

3. "Taxable valuation should increase from a present $586 million to approximately one billion.

4. "If entire support were to be provided by a millage tax, the annual rate in the later 1960's would be over 22 mills.

5. ". . . an average of approximately two million dollars per year will needed (in addition) to construct the buildings in which this oncoming tide . . . may receive this instruction."

These were timely warnings. Probably (inflation continuing) all five forecasts but one will fall short of the predictions by 1969. This statement finds basis in trends since June, 1956. The possible exception is in the increase of students from 7,400 "to about 21,000," although this can be supported by the number of live births (See Appendix III-A) feeding 1969 enrollments, and assuming about one-half of the college-age group seeking entrance at that time.

In 1949-50, a year of peak enrollment (the G-I "bulge" was running full blast), there were 52.5 people in Montana for every one in college. If this ratio prevails in 1970, and Stanford Research Institute's estimate of population, 717,000, is achieved, the *total* enrollment in Montana would be 13,788 students.[17] If 85 per cent of these attend the University system and 15 per cent the private colleges, the University would enroll 11,720, compared with around 8900 in Fall,1957. Assuming a conservative "system" enrollment of 8900 in Autum, 1958, and taking Stanford Research Institute's figure of 68 per cent as the increase in 18-21 year olds for Montana, 1958-1973, then the enrollment figure for 1973 would be 8900 plus 68 per cent of 8900 (or 6052). The total on this basis would be 14,952. These are rock-bottom estimates in a field best occupied by population experts. A number of tables in the appendix may be used to compute a variety of predictions.

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[17] If Utah's ratio is achieved in 1970 (33.0, highest of all), Montana would enroll 21,727 — about what Utah now enrolls — and so forth for the example given.

The 1956 estimates of 21,000 students for 1969 (Table II of the A. S. Merrill analysis) are not to be dismissed, especially should Montana and the rest of the nation achieve the college-bound ratio of Utah (approximately 50 per cent of college youth in college, rather than the current national average of about 31 per cent). However they appear to be generous.

Two points clearly have emerged in the meantime:

1. In the decades after 1920 American higher education absorbed somewhat similar growth in enrollment without fanfare. (Utah's experience as a "pilot plant" for the nation shows that the bulk of college-attenders above 30 per cent of the age group tend to be general students—many of whom can be absorbed into existing space and classes, and many of whom do not finish four years).

2. The approach is, therefore, *cautious* but *steady* planning.

In contrast with some faster-growing neighbors, speaking of the six units overall, Montana is at some points already overextended. It would be a mistake to go on a six-unit-wide building "boom", therefore, in a frantic "drive" to prepare for the "flood." The flood, in Montana, despite birth rates of 1956 and 1957, is not likely to be the proportion it will be in at least six and perhaps nine other western states.[18] It will undoubtedly express itself in different ways in each of the campuses.

A revised approach to building needs is outlined in the succeeding chapter. This will involve plans that must change from month to month, from legislative session to legislative session.

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[18] See Appendix III-A.

The six units presented a report to the State Board of Education February 10, 1958, of building needs to 1968.[19] This can serve as the basis for the many change-of-plans that will be made. The institutions themselves will change their minds on some items. This plan called for over $16 million in nonrevenue-financed construction to meet 1963's needs, and another $15 million plus by 1968. This is over $3 million per year, compared with the Merrill analysis of $2 million per year (aiming at 1969).

The rational approach to this situation begins in the Board itself—(1) to *determine* where the *critical,* unmet building *needs* are (it may be a new heating plant); and (2) where to begin in any given biennium. This should be a function of each institution's recommendations, screened and sifted by the Board's executive staff and by a standing Board committee on buildings and grounds.

There is need for space analysis and overall planning studies. It is not unreasonable nor out of line to expect a 3 to 5 million dollar request for buildings to the University in the 1959 and next several sessions. By the 1961 session, however, it is only fair and reasonable for the Legislature to expect the professional-administrative and Board-committee screening similar to that contemplated in this report.

To spend $45,000 per year on professional staff in the office of the Executive Secretary may be the best investment Montana can make for the future of its higher education. An architect's fee on a 3 million dollar bond-financed university building may run around $150,000. Interest (at 5 per cent) will run at a similar figure the first year. The University of Montana is big business. In view of the multiple units reporting to a single Board, the units and their presidents deserve the administrative support and review of a central staff.[20] For the Board itself, such help is a necessity if its policy decisions, long-run, are to bring it the pride, satisfaction, and secure feelings of sound accomplishment which, after all, are the basic rewards for such unpaid public service.

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[19] See Appendix III-E.

In the decades immediately ahead, it is apparent from the available data, (see appendices) that demands on the Montana system in terms of population increase will not be as heavy as in other western states. Montana is growing but it is not growing as rapidly as California or other western states. Montana, therefore, in contrast with some of its neighbors, can plan to enhance her future in higher education.

The appendices contain a number of tables based on available economic data. These indicate that financial demands upon Montana will increase but need not be excessive. Montana's per capita income is likely to improve. The state has the ability to support an adequate system of higher education, granted careful coordination of the six units.

Coordination will be a broad undertaking. Each faculty and administration at the operating level, the Executive Secretary's office at the coordinating level, and the Board itself, must watch for signs of expensive program preparation, especially beyond the basic curriculum of the first two years of the undergraduate program. A basic curriculum can be devised *without proliferation of courses* which will serve well the interests of all six institutions. The challenge exists as much for Montana State University and Montana State College as it does for the School of Mines and for Eastern, Northern, and Western. At Eastern Montana College of Education, there is need to carefully watch future programing because of the growing population. It would be wise in the long run, in the judgment of this reporter, for Eastern to avoid becoming another small or middle-sized "complex" college. Rather it should stick closely to its original charter. Any addition to the basic curriculum should be done under very careful examination, scrutiny of all concerned, with review by the Faculty Council. The immediate future destiny of Eastern is not to become another Bozeman or another Missoula. Rather, it is to become an excellent service college to provide teaching personnel for its part of the state, together with a basic curriculum in the first two years for students who cannot go elsewhere. Differential size, budget, facilities, students, are the key to much future planning. Billings, it must be remembered, also contains Rocky Mountain College. The same principle holds true for the colleges at Havre and at Dillon. Peabody is not Harvard nor Michigan. Yet it is content to remain Peabody and make its contribution to the American educational policy. Eastern, Northern, and Western must operate with this wise restraint. The same judgment must also characterize departments at the larger institutions and Montana School of Mines.

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[20] Part-time professional assistance to the Executive Secretary from a member of the Architecture faculty at the Bozeman campus, especially in the summer, is at least within reach for a few hundred extra dollars.

There is now developing a new motivation among administrations, faculty members, students, local townspeople, and local pressure groups involved in the economics and finances of the local institutions. Interest is growing in the state *as a whole.* The future motivation of a unit must *not* be always to have the finest new union building, the most attractive new dormitories, but rather, within the limits of its campus, to turn out the finest educational product. Education still involves Mark Hopkins on one end of the log and a boy on the other, although the log may be a datatron. A union building and a fine dormitory contribute mightily to an educational facility and program. At the same time these wonderful facilities may not be the core of the operation. Higher education is serious business. The Montana system has its full share of serious-minded scholars and administrators who recognize this fact. The responsibility for new "frills" whenever they appear, must often be laid at the door of the people who demand "me too" conveniences for their own local college.

The most important part of the educational "log" is undoubtedly the library. Among "Group I Libraries" listed by the American Library Association, Montana State University and Montana State College find rank. (See Table 19). This report does not have for its purpose a recommendation that the other four institutions build major libraries. The point is simply that pride in a shelf of books on the second floor of an existing building may be more important in the long run, to the education of Montana students, than the finer recreational facilities available on larger, more expensive campuses.

TABLE 19.

PER STUDENT OPERATING EXPENDITURES, GROUP I LIBRARIES IN SELECTED INSTITUTIONS, 1956-57

Institution	Amount
University of California (Berkeley)	$131.45
University of Colorado	34.62
Colorado State	22.65
University of Denver	32.41
Harvard University	213.00
Kansas State	29.30
Massachusetts Institute of Technology	54.40
Minnesota	40.54
Montana State University	36.84
Montana State College	30.03
Nevada	56.70
University of New Mexico	34.98
University of North Dakota	35.08
University of Utah	27.92
Utah State University	33.34
University of Wyoming	41.72
High (University of California, Riverside)	$281.98
Median	43.36
Low (DePaul University)	15.26

Source: Dale M. Bentz, "College and University Library Statistics, 1956-57," (Group I), in *College and Research Libraries,* January, 1958, Vol. 19, No. 1, pp. 52-54.

Central to the importance of future financing is procedure in budgeting. The matter of available reports, feed-back, data and information, exchange among the institutions and through the Office of the Executive Secretary to the board — all these elements will find place in making the proper allocation of funds in the future. The question is more than one of substantive information. Statistics can be assembled in any quantity so as to convince anyone of any particular type of approach. *The major question is one of effective procedure through proper organization.*

The future effective financing of higher education in Montana, in final analyisis, rests on successfully implementing successful organization for the coordination and the control of the six units of the university system.

CHAPTER IV.

RECOMMENDATIONS ON BUDGETING, UNIVERSITY FINANCE, PHYSICAL FACILITIES, AND GENERAL COORDINATION OF THE UNIVERSITY SYSTEM

BUDGETING

1. The executive budget in Montana should be strengthened — a means of responsible financial planning and administration. For biennial appropriations, the State Board of Education, viewed as Regents of the University, should (with their executive officer) function as the requesting authority for the university system as a whole. The Board should be so recognized by the state administration and legislature. Official state forms should be transmitted to the Board, for its internal disposition. Internal requests should originate in the six institutions on forms provided by the Executive Secretary's office. The forms should show all anticipated income items (gross) and all anticipated expenditure items, as *part of the explanation for the anticipated income required by legislative appropriation or authorization.*

2. Analysis, review with each institutional head, and final revision for submission to the governing board, should take place in the Office of the Executive Secretary.

3. Next comes submission of a financial plan by the Executive Secretary to the Board for its approval or revision; and for its *authorization* to seek the request approved from the legislature, via the state budgeting authority.

4. Action by the state legislature follows, with representation for the university system before the legislature as approved by the Board and Executive Secretary's office.

5. Allocations should be made for the university system as set forth in the enacted bill.

6. Seven items are suggested within a reformed general, state appropriation act, (which contains too much detail at present). These seven items should be preceded by a summary statement, not an item in the bill, but expressing the total sum embraced in the biennial grant to the University. It would read as follows:

> "To the Board of Education as Regents of the University of Montana, for the general operation and administrative expenses of the University of Montana for the biennium July 1, 1959 to June 30, 1961 as made available in the following items: .... $________

Then would follow the first in a series of seven major appropriations in the University system, the total of which, when added, would equal the sum expressed in the general preface above. Millage and general fund revenues should be included in these basic grants which would express the state's contribution.

> "1. To the Board of Education as Regents of the University of Montana, for the office of the Executive Secretary, and for the general administrative expenses of the Board as Regents of the University of Montana .... $________
>
> "2a. To the University of Montana, Montana State College, Bozeman campus, for administration, education and general expenses.. $________
>
> b. Experiment Station .... $________
>
> c. Extension Service .... $________
>
> "3. To the University of Montana, Montana State University, Missoula Campus, for administration, education and general expenses

(including the Forestry Experiment Station, etc.)[1] .... $________

"4. To the University of Montana, Western Montana College of Education, Dillon, for administration, education, and general expenses.. $________

"5. To the University of Montana, Montana School of Mines, Butte, for administration, education, and general expensse (including the Bureau of Mines and Geology)[2] .... $________

"6. To the University of Montana, Northern Montana College, Havre, for administration, education, and general expenses .... $________

"7. To the University of Montana, Eastern Montana College of Education, Billings, for administration, education, and general expenses $________

Separate items for building and other capital outlay are recommended. (See item No. 11 below). Nonrecurring items, so-called, should be explained but included either in the regular operating or capital appropriations as the facts warrant.

7. If revision of state budgeting procedures introduces a system of work programs, allotments, and procedures for revision of same, the statutes (or rules of the central state agency or agencies) should permit such items from the university units to be routed through the office of the Executive Secretary unless found inadvisable in that office.

8. The foregoing procedures should apply in all requests for capital outlays, their planning, bond issues, or other means of financing.

9. Annual operating and capital outlay budgets should be

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[1] The justification for including these items within the larger lumps, including the millage, is for the efficiency of both legislature and the administration. Accounting systems can produce the desired results without excessive line items.

[2] See preceding footnote explanation.

submitted through the Office of the Executive Secretary of the Board for approval.

UNIVERSITY FINANCE

1. The 1957 appropriations helped raise the Montana institutions toward higher salaries. Future legislative requests should be based on the needs of the institutions as judged (a) by their responsible faculty and administrative officers; (b) the Office of the Executive Secretary; (c) the governing board; (d) the responsible budget officers of the state; and (e) the legislature.

Needs should be analyzed (a) in terms of program and performance, including curricula, curricular offerings, degrees conferred, class size, SCH cost production and other data; (b) in terms of the relationship of over-all instructional costs to those for administration, plant operation, library, research (non-contract, non-Experiment Station or other extra-budgeted research). The Executive Secretary should examine the New Mexico Board of Educational Finance procedures for possible devices and methods.

2. The experience of Nevada with a sales tax as a means of state revenue proved to be of benefit to that state and to the University of Nevada. Montana must decide the revenue issue for itself, including bond issues, millage, and so forth. The Taxation-Education Commission and other parallel studies are examining these questions.

3. The argument for a centralized, single University budget under the control of a central officer, sometimes heard in Montana, runs counter to a basic principle of successful college operation, which requires local institutional autonomy to an optimum degree. Even in the highly centralized University of California, transfers *between* campus institutions are virtually unknown, although the University, with eight campuses, operates on a single basic appropriation scheme, and has full power to do so. Wise budgeting prevents this necessity, although it is within the power of the Regents of the U. of California. Fund

transfers *within* campus units of U.C. require state-wide action at the present time. However, moving in the direction of the principle of campus autonomy, consultations at the large campus at UCLA made in connection with this study, served to indicate that this process is now being delegated to campus units.

4. Gearing appropriation requests and legislative action thereon to a fixed number of dollars per student head, served a useful purpose (1957) in raising Montana's standards, but is a practice which should be considered as only *one* basis for evaluating *need.* Alone it tends to become a mechanical, slot machine formula. The "refunding" operations of 1958 with budget "reductions accordingly," (when predicted enrollments did not fully materialize), illustrates some of the pitfalls in this practice It will be remembered that in February, 1958, it was reported (accurately) that despite enrollments, "certain costs" were "fixed." A 40 per cent figure, it was agreed, would have to be exempted from the "refunds." Student enrollment figures are an important index in judging the scope of a college operation. But they cannot be extended to the last student and the last 69 cents of an operation.

5. Another reason for not placing overemphasis on student enrollment figures as a means of allocating funds, is to discourage "body-snatching" or "recruiting wars" among the institutions. Conjuring up of new programs, ranging from "industrial electronics" to "television arts" or other attractive academic "come-ons" for attracting enrollments, is not unknown in America.

Dillon's future may be to let itself be known as the campus of three hundred students, and to bring all the benefits of the small academic community to bear on its campus. Billings may be better off with 1,000 students than with 2,000, given Rocky Mountain College and the other five units maintained by the state. The *coordination* of programs is important not only to prevent cost-spirals, but also to avoid anything in the least approaching academic counterfeit.

A 1958 study of the retention and withdrawal of college students made by the U.S. Office of Education (Bull. 1958, No. 1) has shown that "the most important reason for attending a particular institution was to specialize in a certain subject field." If the School of Mines, Western, Northern, or Eastern are *good* enough in their assigned fields, they will have appropriate student enrollment. If they are not good enough in their existing field to attract students, the remedy is not to add new fields and add to duplicate state programs at the major level, but to either *be* good enough or close shop. If they are not good enough in their historic field, chances are they will be less good in some new adventure. This is a matter for outside as well as inside judgment. Hence the earlier recommendations with respect to the Faculty Council and other committees, as well as the Office of the Executive Secretary. In the case of the Montana colleges, this philosophy is given further support in the same study which reported (p. 105): "Transfer percentages indicate that students who enrolled in teachers' colleges and technological institutions understood more clearly what they wanted than did those who enrolled in universities or liberal arts colleges."

The place for the "undecided" in Montana, therefore, may well be at Bozeman or Missoula if the mines, teacher education, or basic curriculum (first two years) does not satisfy either a student or a faculty member elsewhere. A faculty member who is dissatisfied with Swarthmore and wants to be at the University of Pittsburgh had better leave Swarthmore, because Swarthmore will *not* emulate Pittsburgh. The same should go for a faculty member dissatisfied with the program at Billings, Havre, or Dillon. If he feels restricted by the authorized program he had better go "elsewhere" for his own peace of mind and future professional happiness, rather than remain unhappy and attempt to reconstitute, unduly, a different academic order at these small campuses. A school requires a faculty dedicated to the school's purpose.

BUILDINGS, LAND, AND PHYSICAL FACILITIES

1. Permanent buildings and available land at the six campuses are fairly impressive. Over the years buildings have been well constructed. The Physics and Engineering office buildings at Bozeman and the Journalism and Forestry Buildings at Missoula especially impress a campus visitor with their appointments. Their continued maintenance is an important operational responsibility. There is no evidence, including Billings, that any institution will have to move or relocate its campus. Land now owned, nearby or otherwise available, is adequate for future growth — at least into the 1980's.

2. The action of the Montana Supreme Court in declaring the 10 million dollar bond issue unconstitutional (July, 1958) dramatizes the necessity for a continuing, ongoing, rational approach to the problem of state building operations. The past method employed in connection with this device has placed the institutions and their presidents too much in the field of practical politics. It has forced the university system unduly into financial relations with the Missoula, Bozeman, Butte, and other college communities, when the issue is not at all local but rather a state-wide constitutional responsibility.

3. The State of Montana might well consider the establishment of a State Construction and Planning authority to make comprehensive plans for the building needs of the state as a whole (see the new Utah law, ch. 133, *Laws of Utah,* 1957); and, to implement their findings under law. The public must not forget that "building needs" include utilities, water mains, heating plants, many things that do not meet the eye.

4. Steps seem long overdue for an over-all approach to state building finance by the Montana executive branch and legislature. The present policies appear to be piecemeal and do not reflect the approach required by state government in the future.

5. The governing board, in connection with the foregoing,

should re-examine the wisdom and desirability of permitting the university units to assess a variety of special student fees for *instructional*[3] building purposes; and make constructive policies in this area for the guidance of the institutions, and, for the consideration of the legislature.

6. Capital outlays should be most carefully planned and financed. Planning should be based on careful studies of space utilization in each institution. The methods set forth in the *Manual for Studies of Space Utilization in Colleges and Universities* (130 pp., 1957) by John Dale Russell and James I. Doi, are recommended. This study was prepared for and in co-operation with the Committee on Enrollment Trends and Space Utilization of the American Association of Collegiate Registrars and Admissions Officers. Nearly all institutions using this methodology have discovered (with the possible exception of chemistry laboratory space) that their institutions have *some* available space, both in terms of "room-period" use (whether the period be 36, 40, or 44 hours per week), and especially "student-station-period" use. These findings challenge departmental chairmen and other schedule-makers, as well as providing clear-cut data for future planning of new, and replacement of old facilities.

The Board should require the Executive Secretary to make recommendations based on careful surveys and analysis of the findings, then establish firm policies with respect to the timing, authorization, and financial methods of new construction.

7. The institutions can all absorb, speaking generally (and ignoring the limitations of libraries or chemistry laboratories), an estimated 10 to 30 per cent more general students depending on the campus) without (again in general), putting as much pressure on space, or faculty (English and Mathematics here added to the exceptions), as exist in some other institutions of equal or more distinctive scholarly achievements. Using a 36-hour-per-week scheduled use of classrooms as 100 per cent in 1956-57, the

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[3] Note this does not refer to bond issues for self-liquidating projects.

system was using (according to an Executive Council memorandum) 53.1 per cent of its classrooms; and, with 24 hours-per-week as 100 per cent, 66.3 per cent of its laboratories.[4] A 100 per cent room-period-use per week is not expected, being well nigh impossible. However, California standards of 65 per cent for classrooms and 80 per cent for laboratories show that Montana had room in which to grow in 1956-57 *so far as the run of general students is concerned.* The exact facts for the future can be determined through space-utilization studies.

8. Office utilization by faculties, as revealed in the same memorandum, showed that of 492 office units reported, 313 held single occupants — (which is highly desirable), with 168 units having multiple occupany. This is considerably better than large metropolitan universities. Office space is important, and Montana is not unfortunately situated in this regard — speaking comparatively.

9. The Board should review its practice of permitting shells of buildings and other structures to be constructed before sufficient revenues are in sight to see them through to completion.

10. Old, fire-trap, wooden structures at Missoula and Bozeman should be razed, sold, or otherwise disposed of at the earliest possible date. Replacement can be considered at a different level by the central administration and governing board as part of a plant plan requiring attention from the executive and legislative branches of the state government. There is much waste space, square-foot wise, plus high maintenance in the present structures.

11. The automobile is here to stay. Parking facilities are still in the mud-and-gravel stage for the most part on all campuses. Limited funds may be found to improve and blend appropriate areas into the campus atmosphere through parking fees. But legislative assistance is almost essential for such physical facilities.

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[4] Based on a study by the Executive Council, mimeographed, January, 1957. See Appendix III-E-4.

ADMINISTRATION AND GENERAL COORDINATION

1. The Board should take immediate steps to delegate to the Executive Secretary the duties outlined in R.C.M. 75-405, especially,

   a. "to prevent unnecessary duplications of courses of instruction . . ."

   b. "To investigate carefully the needs of each of said institutions with reference to buildings, equipment, and instruction . . ."

2. A governing board cannot make effective *coordination* policies unless it has expert, professional recommendations forthcoming to it for consideration. Likewise the Board must have such professional resources to which major policies and problems can be referred. The board should rely on the Executive Secretary not only for (a) budget recommendations, but for (b) data and information, (c) program control and physical plant planing (in cooperation with the institutions), (d) physical plant financing and capital outlay planning in connection with budget recommendations.

3. The current budget of the Executive Secretary's office is about $17,000. Increases to provide approximately $45,000 per year (New Mexico) may be anticipated:

Executive Secretary — Salary comparable to similar state-wide officers in other states or to the presidents at M.S.U. and M.S.C.	$ 15 - 20,000
Professional Assistant, Budget, Fiscal Planning, and Institutional Studies	6- 8,000
Architectural Engineering (Planning and Construction	10-12,000*
Clerical and Other Assistance	8 - 10,000
	ca. $ 45,000

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*Annual basis indicated by these figures. A part-time or consulting arrangement should be initiated first.

4. The seal of the University of Montana should be in the custody of the Executive Secretary (amend Section 75-406) rather than the Secretary of the State Board of Education.

5. The Council of Presidents has worked extremely well — but its nature inescapably involves a long-range trend toward *mutuality* rather than *coordination* of, and specific missions for, the six units.

6. Mutuality of *feeling* must be maintained, but differential institutional shapes, sizes, programs. The Montana presidents are unusually able men. Professional administrators elsewhere are no more capable nor better qualified. Yet, the advice and recommendations emanating to the Board at present can hardly be divorced from the presidents' preoccupations with their own institutions and local problems. *Coordination,* under the existing pattern becomes a matter of mutuality and cooperation, no matter how high-minded. Prizes tend to go first to original planners. The system also places, simultaneously, restraints on any individual president's rich resources for originality. Such resources invite "me too" responses which can be weighed for their merits by the Board only with difficulty, because of the presence of five other personal equations. I do not believe six presidents ever were more congenial, or cooperated better, than the six witnessed in Montana during the late spring and summer of 1958. However, even in this high-minded, congenial group, state-minded as they are, and filled with great common sense and appreciation for essential limitations, the subtle, long range influence and the subconcious concern for the local place must naturally affect decision making. The result is that Montana has a UN Security Council-like system of cooperating diplomats. All are "chiefs of state" so to speak. Every meeting tends to become a "summit conference" and not an administrative staff meeting for a single, coordinated university system containing differential units.

7. Coordination by the Executive Secretary, by the committee and council scheme proposed (including faculty participation), and the budgetary leadership of the Executive Secretary, need not "destroy" the presidents as "heads of governments." Central coordination does not require "commands." Program limits and even cutbacks will come about as the result of *suggestion,* backed by facts, cost studies, and rational information. Satisfaction with budget revisions and requests will follow the same route. By the same token, the legislature and the Board cannot help but be gratified by full disclosure of information which must stand as the hallmark of leadership and success on the part of the Executive Secretary.

8. A striking demonstration of the need for effective coordination appeared in the spring of 1958, when, in effect, the Board of Education could have authorized actions which, in the long, long distant future, could (if not checked and sublimated) lead towards incipient planning for expensive graduate professional education in the field of medicine. Other examples will quickly follow under the National Defense Education Act of 1958. On March 17, 1958, Montana State College was authorized to request a $130,000 grant from the National Institute of Health for a "Medical Research Building" and to get "necessary matching funds from contributions or grants from interested agencies or individuals, or funds available to M.S.C. which would be suitable for partial matching;...."

Research work in bacteriology, biochemistry, physiology, genetics, was given as justification.

Research of value to human medicine usually precedes the launching of new buildings, and is often accomplished with existing facilities. Federal aid was available, and Montana's portion was allocable! Similar steps were presented to clear the way for comparable action at Missoula.

Research funds, contracts and grants are often a mixed blessing. They bring new requirements for space, overhead costs, and personnel. If they are not designed and geared to the basic character of the institution, they are better rejected. Otherwise a basic decision is taken to enlarge or modify the basic character of the institution. It is to be doubted that future historians will find that the seeds were sown for two rival schools of medicine in the year 1958. However, stranger things have happened. *The point for emphasis is that such steps should be taken with full consideration of the implications involved, and with proper policy limits spelled out after the implications have been weighed.* Here is an example where collective judgment and discussion by faculties, and by the Faculty Council, can prove extremely effective prior to Board recommendations. There are always able, critical minds in a sizeable faculty group who will look beyond self interest, and still recognize the impracticality and undesireability of faculty interference with administrative responsibilities. Such is the role of the Academic Senate at the University of California, best-financed, richest, and perhaps most distinquished of all the state universities. If California can afford broad, representative faculty review of educational policy proposals, with its $190 million per year expenditure budget, the University of Montana can at least consider the practice.

9. One of the early assignments of the Executive Secretary should be to pursue the codification and revision of the rules and regulations of the Board, using the presidents, institutional, and university-wide committees, as may be necessary. This is essential if the Board is to retain its proper place between the legislature on the one hand, and the University on the other. Several years may be involved between initiating the step and appearance in neat, published form of the printed documents.

10. As the Office of the Executive Secretary takes firmer hold in central coordination of the system (and coordination, rather than operation, should be its watchword), the Board may wish to consider an additional *ex officio* title in addition to the existing statutory provision for an "Executive Secretary." Director of Higher Educational Finance, Commissioner of Higher

Education, Commissioner of the University of Montana, are among such possibilities.

11. The Board should aim at a date not later than July 1, 1960, if possible, for making provision for expanding the strengthened office. Provision should be made in the current 1959 Legislative Budget request. Early action is important in order for a new appointee to have the advantage and the benefit, at an early date, of the wisdom and experience of the incumbent Executive Secretary.

12. The Oregon scheme of higher education has a centralized accounting-control system, located in its campuses, principally at Corvallis. The legislature should consider the desirability of authorizing the Board of Education to permit the Executive Secretary's office to establish such a centralized accounting and control system for the University, rather than in the Controller's office, should such a step seem desirable as the review of the Controller Law and the establishing of a new executive budget system proceeds. Such a system could lend itself to effective post-audit control, either by an outside firm of public accountants or by a revised and stregthened post-audit system established by the State of Montana. Purchases, salary checks, other warrants are now centralized in Helena. If this step is taken, an accounting system should be installed which can correlate with institutional studies and yield the type of data useful in university management and control. Such a step will obviously relieve some of the pressure in the existing Controller's office and require additional funds for the office of the Executive Secretary.

13. The High School Relations Coordinator's position under consideration by the presidents, should be deferred until the Executive Secretary's office is enlarged and strengthened. The necessity for the position can then be reconsidered in that office.

14. An endorsement from the Presidents' Council for Eastern Montana College of Education to change from the quarter to the semester plan should be deferred for similar action.

(It was presented to the Board but referred back for study on February 10, 1958.)

15. The action of the Board of Education February 10, 1958, authorizing each unit of the university system to operate an extension program on a "self-supporting basis" with fees of from $5 to $10 per quarter hour, should be viewed as a temporary expedient, and should be referred by the Executive Secretary's office to the Faculty Council for study (or by a special university committee). Recommendations should later be made to the Board for a more permanent policy.

16. The possibilities of a state-wide university extension-public-service-adult-education program should be carefully considered.

17. Restraint at Eastern, Northern, and Western in offering work leading to Masters' degrees is a wise policy.

18. The waiver of nonresident fees should be limited to graduate students of high scholastic ability, and should be delegated by the Board to the presidents at M.S.U., M.S.C., and Montana School of Mines.

19. The Montana institutions need to have some concern lest they become over-heavy with topside administration. Pressures of time on the Presidents as the "Executive Council" may have contributed to this development. Some large state universities did not acquire academic vice presidents or deans of academic administration until they had ten or twelve professional schools, graduate schools, and thousands of students. The Montana deans or vice presidents presently are "working deans" and (or) virtually full-time teaching professors. But names, titles and topside organization will bear watching as the years go by. Some chiefs of campus at large, nationally-known universities, still perform in the classroom, if only a two-hour class one semester or quarter a year. This may not be a universally sound working model, but it is something of an inspiration to a faculty who

see four or five "channels" between them and the President's office.

20. Central institutional studies should be planned, and designed in the office of the Executive Secretary. Uniform reporting, capable of producing clear data, should be formalized. Institutional studies officers, full-time, may eventually be required at the Bozeman and Missoula campuses. For the present, the institutional studies committees may be relied upon within the system. They have done splendid work and deserve hearty commendation.

21. The time is not yet ripe for authorizing liberal arts degrees at the Colleges of Education or Northern Montana College.

22. New curricula, majors, departments of instruction, schools, institutes, degrees, certificates, should be authorized by the Board only after full review and positive presentation from institutional faculties and administrations to the Executive Secretary, and report by him to the Faculty Council. Any proposal having less than substantial support of the Faculty Council should rarely, if ever, be taken by the Executive Secretary to the Board for approval. Review by the Faculty Council in this area of policy can serve as an important check on unwise expansion and duplication — a responsibility which the faculty must share.

EPILOGUE

A Note on Change of Names and the Future of the University of Montana

The "greater University of Montana"may, some day, when its coordination is perfected, aspire to be for its home-state what the University of California has meant to that state, and more importantly, to the world. It is not inconceivable that the excellent cooperation now going forward could lead to a reorganization of the system with a single president, but retaining its multiple campuses. The Griffenhagen study of 1941-2 noted such a prospect. It was briefly approached under Dr. Melby's "Chancellorship." It was outlined as a possible answer as to "how can the state plan the best use of our total resources," by subcommittee VII of the Governor's Committee on Education Beyond the High School, in a report December 14, 1957. Editorial comment has pointed in the same broad direction.

Alumni feelings for the separate campuses can be maintained—as with the "Golden Bears" of California at Berkeley, and the "Bruins" or "Uclans" of U.C.L.A. The "Grizzlies" and the "Bobcats" will go forward unimpeded and unimpaired. The probable "ripe" time for such deliberation could occur when and if Montana State College seeks, like the trend among sister land-grant institutions, to change its name to "Montana State University (of Agriculture and Applied Science)."

It is not impossible to visualize a mature, state-wide feeling at that time that could produce, then, the real University of Montana; with its Executive Secretaryship transmuted into the Presidency of the University, with Chancellors at the Missoula and Bozeman campuses, and Provosts at the other four. Dr. Clarence Dykstra, President of the great University of Wisconsin, and Dr. Raymond B. Allen, President of the great University of Washington, experienced no hardship nor difficulty in becoming "Chancellors" of the great University of California campus in Los Angeles. Presidents in Montana should not, accordingly, find such a change insuperable or insufferable.

At such a time, and should it so happen, — here are some "name" possibilities:

The University of Montana
President of the University

1. The University of Montana, Missoula ......
   Chancellor of Montana State University
2. The University of Montana, Bozeman ......
   Chancellor of Montana State University
   (of Agriculture and Applied Science)
3. The University of Montana, Butte ......
   Provost of the Montana School of Mines
4. The University of Montana, Dillon ......
   Provost of Western Montana College of Education
5. The University of Montana, Billings ......
   Provost of Eastern Montana College of Education
6. The University of Montana, Havre ......
   Provost of Northern Montana College

The University of Montana in 1958 is a growing ideal. It is a statement on all diplomas and degrees conferred. It also appears (sometimes in small print at the bottom of the page) on official stationery and in catalogs. As years go by, it will become more of a living reality. The University will remain a multiple-campus enterprise but tend more and more to become a single institution - the University of Montana. In the hearts of people an outside observer can sense this spirit. With it there is a feeling of pride. The whole is greater than any of its parts.

APPENDIX I.

GOVERNING BOARDS AND STATE UNIVERSITIES

A. BASIC QUALITIES OF GOVERNING BOARDS

Generally speaking, boards established to govern state institutions of higher education appear to have two basic qualities or characteristics. First, for the most part, boards are relatively independent, not directly and immediately responsive to the voters of the states or to popularly elected central state officials. By a variety of means most of the boards are screened from the direct and immediate influence of the voters and the popularly elected state officials. It is apparent that the provisions establishing them and clothing them with authority to operate state instiuions of higher education deliberately intended that the boards should possess a degree of autonomy.

Secondly, the boards have at their command a wealth of institutional faculty and staff personnel of high technical and professional competence. Within each institution certain processes and procedures are established through which the professional competence of institutional personnel may be focused on the academic problems with which the institution is faced. A close examination of such intra-institutional machinery is beyond the scope of this study; nevertheless it is clear that the boards—charged by law with responsibility for operating the institutions—can bring to bear the kinds of special knowledge and counsel on which substantive educational policy decisions should be based.

Most boards govern only one or a few institutions rather than all state institutions. Their attention necessarily is directed primarily at the problems of the particular institutions under their jurisdicion. Only secondarily do they focus attention on the over-all, state-wide problems relating to higher education. The location of these boards in the state's organizational structure assumes particular importance when questions relating to state-wide coordination of higher education arise. — *Higher Education in the Forty-Eight States,* pp. 132-133 (1952).

B. FUNCTIONS OF A UNIVERSITY GOVERNING BOARD

"The functions of a university governing board are now well recognized. The most important of its responsibilities is the selection of the university's chief adminstrative officer. Having selected him, the board should delegate to him board authority in the management of the university, subject to the board's general policies and its periodic review and appraisal. The division of responsibilities between the governing board and the chief administrative officer should be determined by the general principle that the board's responsibilities are legislative and judicial in nature and that the responsibilities of the university president are executive. The board should reserve to itself final decisions on matters of major policy. It should delegate the task of executing policy to its chief administrative officer."

"The regents also have ultimate responsibility for the financial management of the university, including the administration of its endowments, the management of its plant and property, requests for legislative appropriations in support of capital outlay and current operations, the adoption of the institution's budget, and such review and appraisal as will assure that funds are spent in accordance with the educational purpose which the budget reflects.

"Finally, the regents have the responsibility for adopting and promulgating the by-laws, standing orders, and other necessary rules and regulations for the conduct of their own affairs and those of the institutions for which they are responsible.

"The effectiveness with which a university governing board (or for that matter any governing board) performs these functions will be determined by such factors as the following:

"1. The extent to which it confines its work to policy formation and to appraisal of operating effectiveness, and resists the temptation to engage in direct adminstrative activities.

"2. The extent to which it delegates to its appropriate standing committees (which should be few, functional, and university-wide) the authority to take final action on appropriate matters under agreed-upon general policy, subject to periodic report and review.

"3. The extent to which it delegates to its chief administrative officer and, through him, to other administrative officers responsible to him, the authority to make the necessary decisions in carrying out the board's general policies. The board should, of course, after delegating responsibility and authority to its chief administrative officer, exercise such powers as are necessary to insure strict accountability.

"4. The extent to which in apportioning its time it lays primary emphasis on board problems of educational policy, rather than detailed financial operations.

"5. The extent to which its chief executive officer, with the assistance of his central staff and faculty agencies and subordinate administrative officers, keeps the governing board fully informed concerning the institution's long-range problems and tasks, together with full information concerning its day-by-day educational and financial operations."

> *Restudy of the Needs of California in Higher Education*, pp. 223-224 (1955).

C. THE GOVERNING BOARD AND ITS CHIEF ADMINISTRATIVE OFFICER

"The standing orders of the Regents provide that the President of the University shall:

"1. Be the sole channel of communication between officers and employees or groups of officers or employees of the university.

"2. Present to the regents, communications from the academic senate or the student body or their members.

"3. Prepare for the committee on finance a budget 'apportioning to the several departments of the university the funds for the ensuing fiscal year.'

"4. Prepare 'all proposed requests for appropriations of state funds for the university.'

"5. Represent the 'corporation and the university in all matters requiring action by the Legislature or Officers of the State of California.'

"6. Recommend to the regents 'appointments, promotions, demotions and dismissals of all officers and employees of the university . . . except as otherwise provided. In appropriate instances this recommendation shall be made after consultation with properly constituted committees of the academic senate and the head of the campus concerned.

"7. Have final jurisdiction over the appointment and promotion of all employees other than officers of the university and faculty members of tenure rank.

"8. Recommend to the regents the 'compensation of officers of the university, changes in the salary scales and increases in the salaries of individual faculty members receiving above-scale salaries.' The compensation of all other employees is under the president's jurisdiction, subject to appropriated and budgeted funds.

"9. Prescribe the duties of all officers of the university which have not been defined by the regents.

"10. Issue, subject to the approval of the regents, such regulations and executive orders 'not inconsistent with the provisions of the by-laws of the regents or their standing orders, as may be necessary or convenient to enable (him) to perform the duties of his office and exercise the powers conferred upon him.'

"11. Consult with the academic senate regarding changes in educational policy and transmit to the regents any resolution or memorial addressed by the senate to the regents.

"12. Report to the academic senate acts of the regents or other bodies which affect the conduct of education and research within the university.

"This conferral of powers upon the president of the university has been made in accordance with the constitutional provision empowering the Board of Regents 'to delegate to its committees or to the faculty of the university, or to others, such authority or functions as it may deem wise.' Furthermore, the board's delegation of authority to the president, which is essential for the efficient administration of the university, is consistent with well-recognized practice in major educational institutions. The university's administrative procedures and decisions could be made even more efficiently and promptly if, as proposed above, the regents were to broaden the scope of the president's authority (which will often be exercised through redelegation by him to subordinate administrative officers) by empowering him to take action on additional matters within the limits of agreed-upon general policy."

Reprinted from *Restudy*, pp. 229-230 (1955).

APPENDIX II.

LEGAL PROVISIONS AFFECTING THE CALIFORNIA STATE COLLEGES[1]

CALIFORNIA EDUCATION CODE, 20301:

"The primary function of the State College is the training of teachers. State colleges also may offer courses appropriate for a general or liberal education and for responsible citizenship; offer vocational training in such fields as Business, Industry, Public Services, Homemaking, and Social Service; and other preprofessional courses needed by students who plan to transfer to universities for advanced professional study. Courses in Military Science and Tactics may be given in conformance with the Laws of the United States made and provided with reference to R.O.T.C. units in educational institutions."

(Enacted 1943, the section then reading: "The primary function of the State colleges is the training of teachers, and there shall be no extension of the curriculum of any State college which will carry it into any other field of higher education . . .")

CALIFORNIA EDUCATION CODE, 20341:

"The several state colleges are in charge of the Director of Education for purposes of administration."

CALIFORNIA EDUCATION CODE, 20342:

"The director of Education shall control and expend all moneys appropriated for the support and maintenance of the state colleges, and all moneys received as donations."

CALIFORNIA EDUCATION CODE, 20371:

"The president of each state college shall be appointed by the Director of Education subject to the approval of the State Board of Education."

CALIFORNIA EDUCATION CODE, 20372:

"Except as otherwise provided, the members of the teaching staff of each state college and all officers and employees of the college shall be appointed by the Director of Education, subject to the approval of the State Board of Education, only upon the recommendation of the president of the college."

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[1] Note: The California State Colleges are *not* part of the University of California system. They constitute a separate system administered by the State Board of Education, and not by the Regents of the University of California.

APPENDIX III.

STATISTICAL TABLES AND CHARTS[1]

Note: Appendix III contains statistical tables and charts under six headings: A, B, C, D, E, and F (see Table of Contents). Statistics do not, indeed convey "the truth" of any social situation. Statistical analyses, as a matter of fact, are often contradictory. At best they are only indications, approaches to understanding a situation. For this reason a wide variety of tables has been included here and previously in the text. If the dollar-figures, enrollment counts, percentages, and other figures do not always coincide, it will be well to remember the limitations of statistical usage and that different national and other sources utilize different bases, definitions, inclusions and exclusions, in the process of construction.

By reference nevertheless, to the variety of materials here appended and in the text, some additional measure of appreciation for the problems confronting the University of Montana may be gained. Individual tables or elements in them will prove to be weak and faulty, especially when subjected to the critical scrutiny of faculty experts. Yet, even when they serve as targets, rather than as mirrors or lamps, such material helps promote the refined study, the continuous, intelligent attack needed to "throw more light."

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[1] Fourteen of the 58 tables in Appendix III were prepared, under arrangement for this study, by Dr. Jewell J. Rasmussen, Professor and Head of the Department of Economics, University of Utah: Tables III-A-4, 5, 6, 7, B-4 and 13, C-1 through 8.

III.

A. POPULATION AND BASIC ENROLLMENT DATA

III-A-1.

LIVE BIRTHS, MONTANA 1939-1957

Year	Number	Rate (per 1,000 estimated population
1939	10,897	19.5
1940	11,468	20.5
1941	11,545	21.8
1942	11,735	23.5
1943	11,407	24.3
1944	10,943	22.5
1945	10,601	21.0
1946	12,858	24.6
1947	15,086	28.0
1948	15,035	27.0
1949	15,366	26.8
1950	15,592	26.4
1951	15,929	26.5
1952	16,479	26.6
1953	16,596	25.9
1954	17,276	26.8
1955	17,454	26.4
1956	17,703	26.2
1957	18,219	

Source: Thompson, G. D. Carlyle, M.D., Executive Officer, Montana State Board of Health, 1956 *Annual Statistical Supplement,* Table 1, page 3.

III-A-2.

PER CENT INCREASE IN BIRTHS, 1935-1955 RANK ORDER, THE ELEVEN WESTERN STATES

	State	Per Cent Increase
1.	Nevada	336.6
2.	California	287.9
3.	Arizona	208.1
4.	Oregon	190.9
5.	Washington	188.8
6.	Colorado	117.7
7.	Utah	97.4
8.	New Mexico	96.4
9.	Wyoming	93.9
10.	Idaho	76.4
11.	Montana	71.5

Source: WICHE, *Issues in State-Supported Higher Education* (A Report to the Western Governor's' Conference, Colorado Springs, February 24, 1958), page 11.

III-A-3

INCREASE IN 18-21 YEAR OLDS, 1958-1973 RANK ORDER, ELEVEN WESTERN STATES

State	Per Cent Increase
1. California	146.03
2 Nevada	134.50
3. Arizona	128.05
4. Washington	105.57
5. Oregon	103.39
6. New Mexico	92.91
7. Colorado	86.54
8. Utah	81.36
9. Wyoming	80.90
10. Montana	68.05
11. Idaho	54.50

Source: WICHE, *Issues in State-Supported Higher Education,* (A Report to the Western Governors' Conference, Colorado Springs, February 24, 1958), page 14.

III-A-4.

RELATIVE POPULATION GROWTH, MONTANA AND SELECTED REGIONS, 1940 TO 1970

Year of Census or Projection	Number (thousands)	Percent of 1940	United States	Mountain States	West North Central
1940 (April 1)	560	100	100	100	100
1950 (April 1)	591	106	114	122	104
1956 (July 1)	648	116	127	149	112
1960 (projection)[1]					
Series 1	671	120	135	163	116
Series 2	661	118	134	160	114
Series 3	666	119	134	159	114
Series 4	661	118	133	158	114
1965 (projection)					
Series 1	711	127	146	184	122
Series 2	693	124	144	177	118
Series 3	704	126	144	176	119
Series 4	688	123	141	172	116
1970 (projection)					
Series 1	755	135	158	206	128
Series 2	730	130	155	197	123
Series 3	748	134	155	195	124
Series 4	715	128	148	186	119

Source: U. S. Bureau of the Census, *Current Population Reports,* Series P-25, No. 160, August 9, 1957 and Series P-25, November 4, 1957.

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[1] The four series of population projections are based on different assumptions with respect to migration, fertility and mortality.

III-A-5.

PROJECTIONS OF THE POPULATION 18 TO 24 YEARS OF AGE IN MONTANA, UNITED STATES, MOUNTAIN STATES, AND WEST NORTH CENTRAL STATES JULY 1, 1958 TO JULY 1, 1973 WITH COMPARATIVE FIGURES FOR APRIL 1, 1950

(In thousands)

Year and Migration Assumption	Montana		United States		Mountain States		West North Central States	
	Number	Index	Number	Index	Number	Index	Number	Index
Migration like 1940-50								
April 1, 1950	62	100	16070	100	547	100	1477	100
July 1, 1958	61	99	15481	96	593	109	1368	93
July 1, 1963	69	111	18055	112	699	128	1485	100
July 1, 1968	83	134	22790	142	892	163	1768	120
July 1, 1973	102	165	26360	164	1119	204	2038	138
Migration like 1930-50								
July 1, 1958	61	99	15481	96	589	108	1365	92
July 1, 1963	69	112	18055	112	695	127	1488	101
July 1, 1968	84	137	22790	142	880	161	1783	121
July 1, 1973	102	165	26360	164	1094	200	2060	139
No. Net Migration								
July 1, 1958	63	103	15249	95	582	106	1438	97
July 1, 1963	74	120	17689	110	680	124	1623	110
July 1, 1968	93	151	22237	138	860	157	2007	136
July 1, 1973	109	177	25682	160	1046	191	2328	158

Source: U. S. Bureau of the Census, *Current Population Reports,* Series P-25, No. 132, February 20, 1956.

III-A-6.

PROPORTION OF THE POPULATION OF EACH STATE ATTENDING COLLEGE, 1949-50 (Rank Order)

State	Number of Students with Residence in the State	Population per student with residence in the State	Number of Students Per 10,000 Population
1. Utah	20,865	33.0	302.9
2. District of Columbia	21,266	37.7	265.1
3. New York	315,398	47.0	212.7
4. Colorado	27,312	48.5	206.1
5. Idaho	12,128	48.5	206.1
6. Kansas	37,793	50.4	198.4
7. Oklahoma	43,704	51.1	195.7
8. Washington	45,712	52.0	192.2

III-A-6. (Continued)

9. California	202,829	52.2	191.6
10. MONTANA	11,314	52.2	191.4
11. Massachusetts	89,268	52.5	190.3
12. Connecticut	38,160	52.6	190.1
13. Iillinois	159,093	54.8	182.6
14. Ohio	141,185	56.3	177.7
15. New Jersey	85,787	56.4	177.4
16. North Dakota	10,986	56.4	177.3
17. Texas	135,221	57.0	175.4
18. Minnesota	52,247	57.1	175.2
19. Oregon	26,449	57.5	173.9
20. Nebraska	22,917	57.8	172.9
21. Arizona	12,839	58.4	171.3
22. Maryland	39,466	59.4	168.4
23. Wyoming	4,831	60.1	166.3
24. South Dakota	10,583	61.7	162.1
25. Michigan	101,501	62.8	159.3
26. Iowa	41,450	63.2	158.1
27. Wisconsin	53,690	64.0	156.3
28. Indiana	59,747	65.8	151.9
29. Nevada	2,406	66.5	150.3
30. Missouri	59,320	66.7	150.0
31. Delaware	4,712	67.5	148.1
32. New Hampshire	7,634	69.9	143.2
33. Pennsylvania	150,075	70.0	143.0
34. Florida	39,517	70.1	142.6
35. West Virginia	27,484	73.0	137.0
36. New Mexico	9,161	74.4	134.5
37. Vermont	5,005	75.5	132.5
38. Louisiana	35,410	75.8	132.0
39. Rhode Island	10,115	78.3	127.7
40. Virgina	40,591	81.8	122.3
41. Arkansas	23,014	83.0	120.5
42. Georgia	41,440	83.1	120.3
43. Tennessee	39,085	84.2	118.7
44. Alabama	35,508	86.2	116.0
45. Kentucky	33,576	87.7	114.0
46. Mississippi	24,102	90.4	110.6
47. Maine	9,976	91.6	109.2
48. North Carolina	42,723	95.1	105.2
49. South Carolina	21,624	97.9	102.1
United States	2,486,219	60.6	165.0

Source: U. S. Office of Education, *Residents and Migration of College* Students, 1949-50, Misc. No. 14, 1951, Table A.

III-A-7.

TRENDS IN COLLEGE-AGE POPULATION — 18, 19, 20, 21 YEARS OF AGE NUMBER IN MONTANA, INDEXES IN OTHER SELECTED STATES, 1950-1970

Year	Montana											
	Number	Percent of 1950	United States	Colorado	Idaho	New Mexico	North Dakota	Oregon	South Dakota	Utah	Washington	Wyoming
1950	36,099	100	100	100	100	171	118	281	130	177	263	174
1951	35,080	97	98	99	99	100	100	100	100	100	100	100
1952	35,063	97	96	98	100	92	97	98	98	99	98	99
1953	35,430	98	95	98	98	93	97	97	96	98	97	99
1954	36,651	102	95	99	105	95	96	97	94	100	98	99
1955	37,855	105	96	102	110	96	95	99	94	101	112	101
1956	38,529	107	97	106	116	99	94	106	92	103	105	103
1957	39,339	109	98	109	120	104	91	112	89	104	110	105
1958	40,417	112	101	112	124	103	91	118	87	104	114	108
1959	41,625	115	104	115	128	107	90	125	86	106	120	111
1960	42,613	118	110	119	128	109	91	132	86	106	126	115
1961	43,087	119	117	124	132	108	91	144	87	113	140	119
1962	42,514	118	122	128	133	110	92	160	89	121	160	124
1963	41,633	115	125	131	123	112	93	172	91	127	178	127
1964	42,685	118	130	139	139	113	92	182	91	131	194	128
1965	46,123	128	139	151	150	120	96	197	95	136	208	131
1966	49,937	138	147	163	161	130	102	217	102	146	224	140
1967	54,370	151	156	176	174	139	107	238	108	155	237	150
1968	56,730	157	159	183	179	151	114	260	117	166	250	161
1969	57,233	159	158	188	179	158	117	271	123	172	256	169
1970	58,333	162	162	192	179	162	114	272	127	175	257	172

Source: Adapted from Ronald B. Thompson, *Estimating College Age Population Trends*, 1940-1970, January, 1954.

III-A-8.

POPULATION OF MONTANA, 1970 and 1975 AS ESTIMATED BY STANFORD RESEARCH INSTITUTE, 1955

Population 1954	628,000
Population 1970	717,000
Population 1975	767,000
Per cent increase, 1954-1975	22.1

Source: WICHE, *Background Data on Medical Education in the West* (Preliminary Draft, August, 1958, used by permission of the staff), pages 6-7.

III-A-9.

ESTIMATED PER CENT POPULATION INCREASES ELEVEN WESTERN STATES, 1954-1975

Rank Order	Per Cent	From (1954)	To (1975)
1. Nevada	158.3	218,000	477,000
2. Arizona	134.3	933,000	2,327,000
3. California	87.7	12,554,000	23,565,000
4. New Mexico	82.4	781,000	1,425,000
5. Utah	62.6	757,000	1,231,000
6. Oregon	43.0	1,639,000	2,344,000
7. Colorado	42.2	1,456,000	2,071,000
8. Washington	39.0	2,540,000	3,530,000
9. Wyoming	34.0	312,000	418,000
10. Idaho	26.8	615,000	780,000
11. Montana	22.1	628,000	767,000

Source: WICHE, August, 1958, Adapted from Stanford Research Institute, *Population Trends in the United States Through* 1975 (1955).

III-A-10

RANK ORDER OF PERSONS AGED 20-24 POPULATION PROJECTION, WESTERN STATES, 1955-1975: (WITH OTHER SCHOOL AGE GROUPS)

	Per Cent	18 Year Olds		5-17 Year Olds	
1. California	122.6	134.8	(2)	98.0	(3)
2. New Mexico	113.5	110.1	(4)	85.0	(4)
3. Nevada	107.1	163.7	(1)	168.4	(1)
4. Utah	105.3	99.1	(5)	68.3	(5)
5. Montana	100.5	68.1	(10)	39.6	(10)
6. Idaho	93.7	60.3	(11)	38.8	(11)
7. Oregon	92.3	76.8	(8)	47.8	(7)
8. Arizona	90.7	128.8	(3)	134.6	(2)
9. Colorado	88.0	83.9	(6)	53.8	(6)
10. Washington	86.9	82.6	(7)	43.6	(8)
11. Wyoming	79.9	74.4	(9)	43.5	(9)
Total West	109.2	131.8		92.4	
Total U.S.	66.9	72.2		42.9	

Source: WICHE, August, 1958, Adapted from Stanford Research Institute, *Population Trends in the United States Through* 1975 (1955).

III-A-11

PER CENT POPULATION INCREASE AGES 0-39, 1955-75 RANK ORDER, ELEVEN WESTERN STATES

	Per Cent	From (1955)	To (1975)
1. Arizona	110	726,034	1,522,717
2. Nevada	84	147,726	342,926
3. Colorado	79	968,250	1,265,443
4. California	77	8,271,000	14,611,000
5. New Mexico	71	610,484	1,042,836
6. Utah	60	568,690	910,901
7. Oregon	44	1,054,464	1,522,000
8. Washington	38	1,668,811	2,306,226
9. Wyoming	34	216,289	289,600
10. Montana	27	412,345	554,062
11. Idaho	26	430,616	544,085

Source: WICHE, August, 1958, Adapted from Stanford Research Institute, *Population Trends in the U. S. Through* 1975, (1955).

III-A-12.

PER CENT POPULATION INCREASE AGE 40 AND ABOVE ELEVEN WESTERN STATES, 1955-1975, RANK ORDER

	Per Cent	From (1955)	To (1975)
1. Arizona	144	330,318	803,771
2. California	87	4,840,000	9,056,000
3. New Mexico	81	211,462	381,773
4. Nevada	71	93,519	159,627
5. Utah	47	217,486	320,100
6. Colorado	37	499,403	684,069
7-8. Oregon	31	625,503	821,862
7-8. Washington	31	931,772	1,220,766
9. Wyoming	28	100,303	128,180
10. Idaho	-3	235,449	227,576
11. Montana	-0.5	214,622	213,331

Source: WICHE, August, 1958, Adapted from Stanford Research Institute, *Population Trends in the United States Through* 1975 (1955).

III-A-13.

PER CENT POPULATION INCREASE AGE 65 AND OVER 1955-1975, ELEVEN WESTERN STATES (RANK ORDER)

	Per Cent	From (1955)	To (1975)
1. Arizona	174	61,168	168,269
2. Nevada	134	14,308	33,568
3. New Mexico	115	39,722	85,226
4. California	98	1,038,000	2,052,000
5. Utah	63	47,805	78,331
6. Wyoming	62	20,974	34,099
7. Oregon	54	150,168	231,286
8. Colorado	46	124,202	182,731
9. Washington	39	231,811	323,877
10. Idaho	24	47,450	58,927
11. Montana	9	56,732	61,859

Source: WICHE, 1958, Adapted from Stanford Research Institute, *Population Trends in the United States Through* 1975 (1955).

III.

B. EDUCATIONAL CHARACTERISTICS OF MONTANA AND ITS NEIGHBORING STATES

III-B-1.

YEARS OF SCHOOL COMPLETED BY PERSONS 25 YEARS OLD AND OVER

11 WESTERN STATES: LISTED IN POPULATION ORDER 1950 (Thousands).

		Years of School Completed								Median School Years Completed				
		Population	Elementary School			High School		College		All Classes				
		25 Years Old And Over[1]	Less Than 5 Years[2]	5 to 7 Years	8 Years	1 to 3 Years	4 Years	1 to 3 Years	4 Or More	Total	Male	Female	White	Non-White
1.	California	6,558	445	670	1,052	1,172	1,759	735	533	11.6	11.2	11.9	11.8	8.9
2.	Washington	1,412	66	141	294	252	370	146	102	11.2	10.5	11.8	11.3	8.8
3.	Oregon	910	39	91	207	168	229	93	61	10.9	10.2	11.6	10.9	8.9
4.	Colorado	757	53	84	155	123	179	81	62	10.9	10.2	11.5	10.9	9.8
5.	Arizona	393	56	52	62	64	81	38	29	10.0	9.5	10.5	10.6	5.5
6.	South Dakota	357	21	43	119	46	68	36	18	8.9	8.8	9.9	8.9	8.1
7.	Utah	344	15	28	54	72	96	46	26	12.0	11.8	12.0	12.0	8.9
8.	Montana	336	21	40	84	51	74	36	20	10.1	9.0	11.2	10.2	8.0
9.	North Dakota	326	29	52	107	34	53	31	15	8.7	8.6	8.9	8.8	7.0
10.	New Mexico	326	59	50	44	50	59	30	22	9.3	9.0	9.7	9.5	5.8
11.	Idaho	314	15	32	76	59	73	36	17	10.6	9.8	11.3	10.6	8.4
12.	Wyoming	158	9	16	32	28	39	17	11	11.1	10.2	12.0	11.1	8.5
13.	Nevada	97	7	9	16	18	26	11	7	11.5	10.8	12.0	11.7	7.4
	U. S. Average	87,571	9,455	13,962	17,742	14,858	17,679	6,262	5,284	9.3	9.0	9.6	9.7	6.9

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[1] Includes persons for whom years of school completed was not reported, not shown separately. (Thousands).

[2] Includes persons reporting no school years completed.

Source: *Statistical Abstracts of the United States*, 1957, page 112.

III-B-2.

EARNED DEGREES CONFERRED BY LEVEL AND BY STATE, 1955-56 AND 1954-55

11 WESTERN STATES AND THE DAKOTAS

	Bachelor's and 1st-Professional Degrees			2d-Level Degrees (Master's, Except 1st-Professional)			Doctorate (Ph.D., Ed., etc.)		
State	1955-56	1954-55	% Change	1955-56	1954-55	% Change	1955-56	1954-55	% Change
Arizona	1,949	1,621	+20.2	483	507	— 4.7	11	7	[1]
California	21,463	19,499	+10.1	4,269	4,090	+ 4.4	864	856	+ .9
Colorado	4,301	4,136	+ 4.0	1,190	1,287	— 7.5	148	133	+11.3
Idaho	1,065	925	+15.1	133	110	+20.9			[1]
Montana	1,031	901	+14.4	148	162	— 8.6	2		[2]
Nevada	200	166	+20.5	27	10	[1]			
New Mexico	1,180	1,125	+ 4.9	381	328	+16.2	11	10	[1]
North Dakota	1,109	924	+20.0	166	206	—19.4	8	4	[2]
Oregon	3,581	3,312	+ 8.1	655	668	— 1.9	107	86	[1]
South Dakota	1,286	972	+32.3	188	151	+24.5			
Utah	2,818	2,610	+ 8.0	317	358	—11.5	61	49	[1]
Washington	5,671	5,394	+ 5.1	640	581	+10.2	154	115	+33.9
Wyoming	495	387	+27.9	131	122	+ 7.4	11	18	[1]

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[1] Not computed when base figure (1954-55) is smaller than 100; also excluded from discussion in text.

[2] No doctorate degrees reported in 1954-55.

Source: *Earned Degrees Conferred by Higher Educational Institutions* 1955-1956, Circular No. 499, U. S. Department of Health, Education, and Welfare, Table 15, page 33.

III-B-3.

TOTAL OPENING ENROLLMENT OF DEGREE—CREDIT STUDENTS, 11 WESTERN STATES AND THE DAKOTAS FALL, 1957 AND FALL, 1956

	Total Enrollment		
State (Alphabetical Order)	Fall 1957	Fall 1956	Percent Change
1. Arizona	24,844	22,518	+10.3
2. California	368,326	340,769	+ 8.1
3. Colorado	39,785	37,231	+ 6.9
4. Idaho	10,197	9,692	+ 5.2
5. Montana	10,354	9,967	+ 3.9
6. Nevada	2,352	2,482	— 5.2
7. New Mexico	14,435	13,123	+10.0
8. North Dakota	11,156	10,531	+ 5.9
9. Oregon	36,121	33,203	+ 8.8
10. South Dakota	13,788	12,973	+ 6.3
11. Utah	27,900	27,853	+ 0.2
12. Washington	51,032	50,173	+ 1.7
13. Wyoming	5,527	5,151	+ 7.3
Aggregate U. S.	3,068,417	2,946,985	+ 4.1

Source: *Opening Enrollment in Higher Educational Institutions*, Fall 1957, Circular 518, U. S. Department of Health, Education, and Welfare, Table 10, page 17.

III-B-4.

RATIO OF COLLEGE ENROLLMENT, FALL TERM 1957, TO POPULATION BY CONTROL OF INSTITUTIONS, SELECTED STATES

COLLEGE ENROLLMENT
FALL TERM 1957

State	Population July 1, 1956	Publicly Controlled Number	Publicly Controlled 10,000 Pop. (Ratio per)	Privately Controlled Number	Privately Controlled 10,000 Pop. (Ratio per)	Total Enroll-ment per 10,000 Pop.
Colorado	1,628,000	31,164	191	8,621	53	244
Idaho	625,000	7,999	128	2,198	35	163
MONTANA	653,000	8,900	136	1,454	22	158
New Mexico	811,000	13,568	167	867	11	178
North Dakota	642,000	10,644	166	512	8	174
Oregon	1,733,000	27,810	160	8,311	48	208
South Dakota	693,000	10,393	150	3,395	49	199
Utah	825,000	17,931	217	9,969	120	337
Washington	2,675,000	37,586	141	13,446	50	191
Wyoming	316,000	5,527	175	0		175
Continental U.S.	167,259,000	1,752,291	105	1,284,647	77	182

Source: Enrollment data from U. S. Office of Education, *Opening Enrollment in Higher Educational Institutions,* Fall, 1957; Jan., 1958; population data from U.S. Bureau of the Census, *Current Population Reports,* Series P-25, No. 165, November 4, 1957.

III-B-5.

EARNED DEGREES CONFERRED, BY LEVEL, BY SEX, AND BY INSTITUTION STATE OF MONTANA, 1955-56

Rank	Institution	Bachelor's and 1st-Professional Degrees		2d-Level Degrees (Master's Except 1st-Professional)		Doctorate (Ph.D., Ed.D., Etc.)	
		Men	Women	Men	Women	Men	Women
5	Carroll Col.	31	11				
4	Col. of Great Falls	23	24				
3	Eastern Montana College of Education	21	31	1			
6	Mont. School of Mines	30		2			
2	Mont. State Col.	254	86	42	8	2	
1	Mont. State Univ.	317	138	71	21		
9	Northern Mont. Col.	7	8				
8	Rocky Mountain Col.	20	4				
7	Western Montana College of Education	10	16	2	1		
	Total	713	318	118	30	2	

Source: *Earned Degrees Conferred by Higher Educational Institutions.* 1955-56, Circular No. 499, U.S. Department of Health, Education, and Welfare, Table 16, page 38.

III-B-6.

SUMMARY OF DEGREES GRANTED BY UNITS OF THE UNIVERSITY OF MONTANA, EIGHT-YEAR PERIOD 1950-1957[1]

	1950	1951	1952	1953	1954	1955	1956	1957
Montana State University								
Master's Degrees	91	88	85	102	59	80	76	101
Bachelor's Degrees	784	628	481	420	441	394	471	500
Total — 4801	875	716	566	522	500	474	547	601
Montana State College								
Master's Degrees	42	32	60	19	52	41	42	58
Bachelor's Degrees	671	533	422	303	288	251	311	372
Total — 3497	713	565	482	322	340	292	353	430
Northern Montana College								
Master's Degrees	----	----	----	----	----	----	----	----
Bachelor's Degrees	----	----	----	----	----	8	63	37
Total — 108						8	63	37
Montana School of Mines								
Master's Degrees	6	9	6	0	5	7	2	4
Bachelor's Degrees	53	56	38	42	28	26	30	37
Total — 349	59	65	44	42	33	33	32	41
Western Montana College of Education								
Master's Degrees	----	----	----	----	----	----	3	7
Bachelor's Degrees	51	36	49	29	29	34	27	59
Total — 324	51	36	49	29	29	34	30	66
Eastern Montana College of Education								
Master's Degrees	----	----	----	----	----	----	4	17
Bachelor's Degrees	22	26	50	56	26	70	70	83
Total — 424	22	26	50	56	26	70	74	100
Grand Total, All Degrees from All Units of University of Montana — 9503	1720	1408	1191	971	928	911	1099	1275

Source: Office of the Executive Secretary U. of Montana.

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[1] Does not include several Ph.D.'s conferred by Montana State College.

III-B-7.

TOTAL ENGINEERING ENROLLMENTS AND DEGREES, 1957 STATE OF MONTANA AND SEVEN NEIGHBORING STATES

	Enrollments			Degrees Conferred		
Institution	B.S.	M.S.	Ph.D.	B.S.	M.S.	Ph.D.
Montana Total	1429	45	9	158	9	0
Montana School of Mines	234	16	0	37	4	0
Montana State College	1195	29	9	121	5	0
Arizona (University of Arizona)	1839	202	24	163	28	0
Idaho (University of Idaho)	851	28	0	110	11	0
Nevada (University of Nevada)	507	14	0	55	4	0
New Mexico (3 institutions)	2439	369	18	218	21	0
North Dakota (2 institutions)	1856	31	0	219	12	0
Utah (3 institutions)	2974	90	3	257	17	6
Wyoming (University of Wyoming)	788	20	0	107	2	0

Source: *Engineering Enrollments and Degrees,* 1957, Circular 516, U.S. Department of Health, Education, and Welfare (Washington, 1958), Table C.

III-B-8.

TOTAL FACULTY FOR ADMINISTRATION, INSTRUCTION, AND RESEARCH, 11 WESTERN STATES AND THE DAKOTAS, 1955

Arizona	1,232
California	27,993
Colorado	3,904
Idaho	936
Montana	1,095
Nevada	261
New Mexico	1,259
North Dakota	1,131
Oregon	3,476
South Dakota	1,176
Utah	2,523
Washington	4,674
Wyoming	499

Source: *Faculty in Institutions of Higher Education,* Circular 504, U. S. Department of Health, Education, and Welfare, November, 1955, page 10.

III-B-9

STUDENTS PER FTE STAFF MEMBER UNIVERSITY OF MONTANA 1957-1958

Source: "Consolidation of Educational System Income Record, 1945-46 to 1957-58," Office of the Executive Secretary.

Unit	Enrollment	FTE Staff	Ratio
M S U	2893	268	10.8
M S C	3561	225	15.8
Mines	303	30	10.1
Western	334	25	13.3
Eastern	880	53	16.6
Northern	523	37	14.1
TOTALS	8494	638	13.3

(State Tax funds per student same year: $949.20)
(8494 ÷ $8,062,582 = $949.20)

III-B-10.

FACULTY FOR ADMINISTRATION, INSTRUCTION AND RESEARCH, STATE OF MONTANA, 1955

			STAFF, NOVEMBER 1955						
			For Resident Instruction[2]						
			In Courses of College Grade						
			With Rank of Instructor or Above			In Vocational and Adult Courses	For Extension Instruction	For Organized Research	Faculty in Main Summer Session, 1955
	Total[1]	General Administration	Number	Full-time Equivalent	Jr. Staff				
Carroll Col.	65	18	52	43					10
Col. of Great Falls*	45	16	40	21			5		17
Custer County J. C.*	11	3	10	10		2			
Dawson County J. C.	12	1	12	6		2			
Eastern Mont. Col. of Educ.*	50	7	38	35			5		27
Mont. School of Mines	39	4	34	28	3		4	15	
Mont. State Col.*	451	30	221	174	19	1	33	113	52
Mont. State Univ.	308	25	213	183	39		4		104
Northern Mont. Col.	40	5	34	30		5	6		18
Rocky Mountain Col.	33	7	28	24		3			
Western Mont Col. of Educ.	41	10	34	25			2		23
	1095	126	716	579	61	13	59	128	251

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*Data for institution have been estimated in whole or in part.

[1] Includes persons with rank of instructor or above and persons on junior instructional staff (such as assistant instructors, teaching fellows, teaching assistants, and labortory asistants).

[2] Includes undergraduate and graduate students enrolled full-time or part-time.

Source: *Faculty in Institutions of Higher Education*, Circular 504, U. S. Department of Health, Eudcation, and Welfare, November, 1955, Table 11, page 23.

III-B-11.

NUMBER OF INSTITUTIONS REPORTING DATA ON ORGANIZED OCCUPATIONAL CURRICULA ELEVEN SELECTED STATES BELOW 700,000 POPULATION (1950 CENSUS)

		All Institutions						Engineering-Related						Non-Engineering-Related					
		Total		Public		Private		Total		Public		Private		Total		Public		Private	
State	All	4 Yr.	2 Yr.	4 Yr.	2 Yr.	4 Yr.	2 Yr.	4 Yr.	2 Yr.	4 Yr.	2 Yr.	4 Yr.	2 Yr.	4 Yr.	2 Yr.	4 Yr.	2 Yr.	4 Yr.	2 Yr.
1. Utah	3	1	2	1	2	0	0	1	1	1	1	0	0	1	2	1	2	0	0
2. New Mexico	3	3	0	3	0	0	0	1	0	1	0	0	0	3	0	3	0	0	0
3. South Dakota	13	11	2	5	0	6	2	2	0	2	0	0	0	11	2	5	0	6	2
4. North Dakota	8	5	3	4	3	1	0	0	1	0	1	0	0	5	3	4	3	1	0
5. Montana	5	4	1	2	1	2	0	1	0	1	0	0	0	4	1	2	1	2	0
6. Idaho	4	1	3	0	2	1	1	0	2	0	2	0	0	1	3	0	2	1	1
7. New Hampshire	4	1	3	1	2	0	1	0	2	0	2	0	0	2	1	2	0	0	1
8. Vermont	3	1	2	1	0	0	2	0	0	0	0	0	0	1	2	1	0	0	2
9. Wyoming	2	0	2	0	2	0	0	0	1	0	1	0	0	0	2	0	2	0	0
10. Deleware	3	2	1	1	0	1	1	1	0	1	0	0	0	2	1	1	0	1	1
11. Nevada																			

Source: Table B, *Organized Occupational Curricula,* U. S. Department of Health, Education, and Welfare, Office of Education, page 11.

III-B-12.

RATIO OF FRESHMEN PER 100,000 STATE POPULATION IN MEDICAL SCHOOLS, 1956-57: ELEVEN WESTERN STATES (RANK ORDER)

			Number in Medical School		
			West	Non West	Total
1.	Utah	6.6	43	10	53
2.	Colorado	5.3	66	16	82
3.	Wyoming	5.2	7	10	17
4.	Oregon	4.3	65	8	73
5.	Arizona	4.2	17	26	43
6.	Washington	4.1	81	29	110
7.	Idaho	3.7	10	13	23
8.	Montana	3.0	5	15	20
9.	New Mexico	3.0	12	12	24
10.	California	3.0	253	148	401
11.	Nevada	2.5	2	4	6
	Total		361	291	652
	West	4.08			
	United States	4.7			

Source: WICHE, *Background Data on Medical Education in the West,* August, 1958 page 14.

III-B-13.

COMPARISON OF THE NUMBER OF STUDENTS ATTENDING COLLEGE IN MONTANA WITH THE NUMBER RESIDING IN MONTANA 1949-50

Students Attending Institutions in Montana

Type of Control	Total	Residents of: Montana Number	Montana Percent	Other States Number	Other States Percent
Publicly controlled	8573	7335	85.6	1238	14.4
Privately controlled	1034	932	90.1	102	9.9
Total	9607	8267	86.1	1340	13.9

Students who were Residents of Montana

Type of Control	Total	Attending Institutions in: Montana Number	Montana Percent	In Other States Number	In Other States Percent
Publicly controlled	8443	7335	86.9	1108	13.1
Privately controlled	2871	932	32.5	1939	67.5
Total	11314	8267	73.1	3047	26.9

Source: U. S. Office of Education, *Residence and Migration of College Students,* 1949-50, Misc. No. 14, 1951.

III-B-14.

INSTITUTIONS PRODUCING DOCTORATES 1936-56, WESTERN STATES AND DAKOTAS RANKED BY STATES

1. California (Total)		9151
University of California (Berkeley)	3618	
Stanford University	2116	
University of Southern California	1255	
U. C. L. A.	1069	
California Instit. of Technology	874	
College of the Pacific	233	
University of California (Davis)	122	
Claremont	37	
Pacific School of Religion	19	
Berkeley Baptist Divinity School	14	
San Francisco Theological Seminary	11	

III-B-14. (Continued)

2.	Colorado (Total)		1255
	University of Colorado	615	
	Denver University	280	
	State College of Education	211	
	Iliff	96	
	Colorado School of Mines	51	
	Colorado A & M	1	
3.	Washington (Total)		1194
	University of Washington	931	
	State of Washington College	263	
4.	Oregon (Total)		596
	Oregon State College	356	
	University of Oregon	233	
	University of Portland	7	
5.	Utah (Total)		327
	University of Utah	310	
	Utah State University	17	
6.	Wyoming (Total)		86
	University of Wyoming	86	
7.	New Mexico (Total)		69
	University of New Mexico	68	
	New Mexico Institute of Mining and Technology	1	
8.	Arizona (Total)		59
	University of Arizona	55	
	Arizona State College	4	
9.	Montana (Total)		2
	Montana State College	2*	
10.	Idaho		0
11.	Nevada		0
12.	North Dakota		0
13.	South Dakota		0

Source: *Doctorate Production in U. S. Universities* 1936-1956, Publication 582, National Academy of Sciences—National Research Council (1958).

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*These represent the beginnings of M.S.C.'s entry into the Ph.D. field. Additional Ph.D.s have been conferred since 1956, including five at June Commencement, 1958.

III-B-15.

PRODUCTION OF DOCTORATES IN MOUNTAIN STATES AND THE DAKOTAS, 1936-56

RANK ORDER

Natural Sciences

	Mathematics	Physics and Astronomy	Chemistry	Earth Sciences	Engineering	TOTAL PHYSICAL SCIENCES	Agriculture	Botany and Phytopathology	Biochemistry	Genetics	Microbiology	Physiology and Related Fields	Zoology	Biosciences, Miscellaneous	Medical Sciences	TOTAL BIOLOGICAL SCIENCES	TOTAL NATURAL SCIENCES
Colorado	11	17	124	50	34	236		6	20		19	25	15	5	8	98	334
Utah	3	22	56	12	55	148	2	1	16	2	7	13	11	6	3	61	209
Wyoming			7	5		12	4							3		7	19
New Mexico		5	13	1		19					1	4				5	24
North Dakota					2	2			1			2				3	5
Arizona			5	25		30		8	1					3		12	42
Montana			1		1	2											2
South Dakota			(None listed)														
Idaho			(None listed)														

Source: National Academy of Sciences — National Research Council, *Doctorate Production in United States Universities* 1936-1956, Publication 582, 1958, taken from Table 3, page 10.

PRODUCTION OF DOCTORATES IN MOUNTAIN STATES AND THE DAKOTAS, 1936-56 (Cont.)

Social Science, Arts, and Humanities

	Sociology	Anthropology and Archaeology	Economics	Geography	History	Political Sciences	Psychology	TOTAL SOCIAL SCIENCES	Business and Commerce	Arts and Music	Foreign Languages and Literature	English Language and Literature	Law and Jurisprudence	Philosophy	Religion and Theology	Speech	Arts, Social Sci., & Humanities, other	SUB-TOTAL ARTS & HUMANITIES	Education	TOTAL: ARTS, SOCIAL SCIENCES AND HUMANITIES	GRAND TOTAL ALL DISCIPLINES
Colorado	5		18		43	8	103	177		1	13	46		1	97	71		229	515	921	1255
Utah	5			1	5	12	30	53		3	3	4				8	1	19	46	118	327
Wyoming																			67	67	86
New Mexico		9			19			28			11	5					1	17		45	69
North Dakota	1				2	2	13	18				1						1	42	61	66
Arizona		7						7											10	17	59
Montana																					2
South Dakota			(None Listed)																		
Idaho			(None Listed)																		

Source: National Academy of Sciences — National Research Council, *Doctorate Production in United States Universities* 1936-1956, Publication 582, 1958, taken from Table 3, page 11.

III-B-16.

RANK ORDER OF WESTERN INSTITUTIONS PRODUCING 50 DOCTORATES OR MORE 1936-1956

	Institution	Number Produced
1.	University of California (Berkeley)	3618
2.	Stanford	2116
3.	University of Southern California	1255
4.	U.C.L.A.	1069
5.	University of Washington	931
6.	California Institute of Technology	874
7.	University of Colorado	615
8.	Oregon State College	356
9.	University of Utah	310
10.	Denver University	280
11.	Washington State College	263
12.	University of Oregon	233
13.	College of the Pacific	233
14.	Colorado State College of Education	211
15.	University of Wyoming	86
16.	University of New Mexico	68
17.	University of Arizona	55
18.	Colorado College of Mines	51

Source: National Academy of Sciences — National Research Council, *Doctorate Production in United States Universities* 1936-1956, Publication 582, 1958, Table 6, pages 20-53.

III-B-17.

FIVE WESTERN INSTITUTIONS INCLUDED IN THE THIRTY LEADING DOCTORATE INSTITUTIONS IN THE UNITED STATES

National Ranking	Institution	Number Produced
5	California (Berkeley)	3618
14	Stanford	2116
27	University of Southern Calif.	1255
28	U. C. L. A.	1069
30	Washington	931

Source: National Academy of Sciences — National Research Council, *Doctorate Production in United States Universities* 1936-1956, Publication 582, 1958, Table 4, Pages 16-17.

III.

C. TABLES ON UNIVERSITY FINANCE

III-C-1.

EDUCATIONAL AND GENERAL INCOME OF PUBLICLY CONTROLLED INSTITUTIONS OF HIGHER EDUCATION RECEIVED FROM STATE AND LOCAL GOVERNMENTS

1939-40, 1949-50 and 1955-56

State	Current Dollars (in thousands)			Percent Increase	Per Student[1] in Constant (1957 $)[2]		Percent Increase	Percent of Personal Income		
	1939-40	1949-50	1955-56	1940-56	1939-40	1955-56	1940-56	1939	1949	1955
Colorado	$ 2,586	$ 7,349	$ 11,819	357	$501	$547	9.2	.447	.410	.429
Idaho	1,304	4,133	5,241	302	521	852	63.5	.539	.585	.584
MONTANA	986	3,299	6,604	570	396	885	123.5	.335	.417	.579
New Mexico	1,132	4,339	2,414	555	545	758	39.1	.615	.605	.657
North Dakota	1,156	4,881	7,047	510	339	861	154.0	.572	.720	.814
Oregon	2,581	7,363	16,408	536	590	953	61.5	.410	.329	.534
South Dakota	841	3,184	5,635	570	394	760	92.9	.384	.461	.659
Utah	1,411	4,941	8,690	516	335	530	58.2	.562	.602	.704
Washington	4,050	19,126	27,460	578	465	844	81.5	.383	.525	.532
Wyoming	415	2,553	4,506	986	412	935	126.9	.273	.580	.802
Continental U. S.	167,773	524,280	955,873	470	467	665	42.4	.231	.255	.315

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[1] Enrollments used were third week fall term resident college enrollments.

[2] Adjustment by use of U. S. Bureau of Labor Statistics consumer price index modified so that 1957 = 100.

Source: U. S. Office of Education, Biennial Survey of Education in the United States, 1938-40, 1948-50, and 1954-56.

III-C-2.

CURRENT INCOME FOR EDUCATIONAL AND GENERAL PURPOSES, PUBLICLY CONTROLLED INSTITUTIONS OF HIGHER EDUCATION, MONTANA AND SELECTED STATES, 1955-56

		Governmental Appropriations								
State	Total Current Income	Federal	State	Local	Total St. & Local	Student Fees	Endowment Earnings	Gifts & Grants	Departmental Activity Income	Other Income
			Amount (in thousands of dollars)							
Colorado	$ 27,027	$ 2,490	$ 11,019	$ 800	$ 11,819	$ 5,321	$ 43	$ 984	$ 5,765	$ 604
Idaho	7,185	784	4,812	429	5,241	470	258	81	267	84
MONTANA	9,003	977	6,570	34	6,604	602	126	225	447	23
New Mexico	13,088	1,942	6,942	472	7,414	1,616	954	212	695	232
North Dakota	9,693	1,017	6,919	128	7,047	1,006	178	65	264	115
Oregon	24,018	2,363	15,968	440	16,408	3,306	41	640	1,109	150
South Dakota	8,611	959	5,635		5,635	1,094	169	3	480	270
Utah	15,853	2,903	8,592	98	8,690	2,454	69	988	304	446
Washington	40,796	4,934	26,980	480	27,460	3,917	481	1,092	972	1,941
Wyoming	6,751	700	4,355	151	4,506	751	141	463	82	109
Continental U. S.	1,628,256	263,367	851,874	103,999	955,873	200,158	16,266	48,280	110,829	33,483
				Percent						
Colorado	100.00	9.21	40.77	2.96	43.73	19.69	.16	3.64	21.33	2.24
Idaho	100.00	10.91	66.97	5.97	72.94	6.54	3.59	1.13	3.72	1.17
MONTANA	100.00	10.85	72.97	.38	73.35	6.69	1.40	2.50	4.96	.25
New Mexico	100.00	15.01	53.04	3.61	56.65	12.35	7.29	1.62	5.31	1.77
North Dakota	100.00	10.49	71.38	1.32	72.70	10.38	1.84	.67	2.73	1.19
Oregon	100.00	9.84	66.48	1.83	68.31	13.77	.17	2.67	4.62	.62
South Dakota	100.00	11.14	65.44		65.44	12.70	1.96	.04	5.58	3.14
Utah	100.00	18.31	54.20	.62	54.82	15.48	.43	6.23	1.92	2.81
Washington	100.00	12.09	66.13	1.18	67.31	9.60	1.18	2.68	2.38	4.76
Wyoming	100.00	10.37	64.51	2.23	66.74	11.12	2.09	6.86	1.21	1.61
Continental U. S.	100.00	16.17	52.32	6.39	58.71	12.29	1.00	2.96	6.81	2.06

Source: U. S Office of Education. *Biennial Survey of Education*, 1954-56.

III-C-3

PERSONAL INCOME, UNITED STATES AND MONTANA

1929-1956

	United States		Montana		Montana	
	(Millions of dollars	Per Capita	(Millions of dollars)	Per Capita	As per cent of U.S. Total	Per Capita
1929	85,661	$ 703	312	$ 595	.364	85
1930	76,780	624	271	503	.353	81
1931	65,597	529	207	383	.316	72
1932	50,022	401	182	337	.364	84
1933	47,122	375	162	299	.344	80
1934	53,482	423	197	361	.368	85
1935	60,104	472	260	473	.433	100
1936	68,363	534	264	477	.386	89
1937	73,803	573	284	513	.385	90
1938	68,433	527	284	514	.415	98
1939	72,753	556	294	530	.404	95
1940	78,522	595	318	570	.405	96
1941	95,953	719	388	715	.404	99
1942	122,417	909	467	896	.381	99
1943	148,409	1,102	545	1128	.367	102
1944	160,118	1,194	550	1168	.343	98
1945	164,549	1,234	568	1191	.345	97
1946	175,701	1,249	657	1278	.374	102
1947	189,077	1,316	772	1457	.408	111
1948	207,414	1,420	865	1596	.417	112
1949	205,452	1,382	791	1390	.385	101
1950	225,473	1,491	957	1606	.424	108
1951	252,960	1,649	1050	1768	.415	107
1952	269,050	1,723	1066	1780	.396	103
1953	283,140	1,790	1093	1786	.386	100
1954	284,823	1,767	1064	1719	.374	97
1955	303,268	1,846	1141	1814	.376	98
1956	324,281	1,940	1188	1862	.366	96

Source: U. S. Department of Commerce, *Survey of Current Business,* August, 1957 and *Personal Income by States,* A Supplement to the *Survey of Current Business,* 1956.

III-C-4.

RELATIONSHIP OF PER CAPITA EXPENDITURES FOR STATE INSTITUTIONS OF HIGHER EDUCATION TO PER CAPITA PERSONAL INCOME MONTANA AND SELECTED STATES, 1956-57

					Percent of per capita Income Per Capita Expenditures, Higher Education		
State	Personal Income	Current Operations	Capital Outlay	Total	Current Operations	Capital Outlay	Total
Colorado	$1,863	$12.18	$7.90	$20.08	.65	.42	1.07
Idaho	1,587	6.69	4.44	11.13	.42	.28	.70
MONTANA	1,862	10.06	7.32	17.38	.54	.39	.93
New Mexico	1,494	15.26	3.47	18.73	1.02	.23	1.25
North Dakota	1,365	11.18	3.85	15.03	.82	.28	1.10
Oregon	1,908	10.57	5.69	16.26	.55	.30	.85
South Dakota	1,330	10.58	4.07	14.65	.80	.30	1.10
Utah	1,633	16.41	3.33	19.74	1.00	.20	1.20
Washington	2,022	12.50	4.07	16.57	.62	.20	.82
Wyoming	1,875	12.52	5.97	18.49	.67	.32	.99
All 48 states	1,937	6.97	2.91	9.88	.36	.15	.51

Source: Derived from data on expenditures for higher education, population, and personal income in U. S. Bureau of the Census, *Compedium of State Government Finances in* 1957, Tables 17 and 40.

III-C-5.

RELATIVE CHANGES IN TOTAL AND PER CAPITA PERSONAL INCOME MONTANA AND SELECTED STATES, 1939-1956

	Total Personal Income (Millions of dollars)			Per Capita Personal Income		
State	1939	1956	Percent Increase	1939	1956	Percent Increase
Colorado	578	3,003	420	$516	$1,863	261
Idaho	226	992	339	434	1,587	266
MONTANA	294	1,188	304	530	1,862	251
New Mexico	184	1,218	562	352	1,494	324
North Dakota	202	897	344	314	1,365	335
Oregon	629	3,278	421	582	1,908	228
South Dakota	219	926	323	340	1,330	291
Utah	251	1,326	428	462	1,633	253
Washington	1,058	5,392	410	617	2,022	228
Wyoming	145	602	315	585	1·875	221
Continental U.S.	72,753	324,281	346	556	1,940	249

Source: U. S. Department of Commerce, *Survey of Current Business,* August 1957 and September, 1955.

III-C-6.

COMPARATIVE AMOUNTS OF STATE GOVERNMENT DEBT IN MONTANA AND SELECTED STATES, 1957 (000's)

	Long-term Debt Outstanding			
	All State Functions		State Institutions of Higher Education	
State	Total	Per Capita	Total	Per Capita
Colorado	$ 47,389	$ 29.11	$ 23,478	$14.42
Idaho	5,990	9.58	3,990	6.38
MONTANA	42,361	64.87	15,696	24.04
New Mexico	46,518	57.36	14,905	18.38
North Dakota	14,321	22.31	4,392	6.84
Oregon	181,867	104.94	11,342	6.54
South Dakota	487	.70	487	.70
Utah	4,467	5.41	4,467	5.41
Washington	271,571	101.52	11,737	4.39
Wyoming	4,188	13.25	2,908	9.20
All 48 states	13,521,970	82.55	706,423	4.24

Source: U. S Bureau of the Census, *Compendium of State Government Finances in* 1957.

III-C-7.

STATE TAX COLLECTIONS[1] AS PERCENTAGE OF TOTAL PERSONAL INCOME IN MONTANA AND OTHER SELECTED STATES FOR SELECTED YEARS 1940 to 1957[2]

(In Millions of dollars)

State	1940 State tax Amount	1940 % of the Personal Income	1946 State tax Amount	1946 % of Personal Income	1950 State tax Amount	1950 % of Personal Income	1953 State Tax Amount	1953 Personal Income	1957 State Tax Amount	1957 Personal Income	St. taxes as % of St. & local Taxes-1953
Colorado	$ 39.0	6.75	$ 55.8	4.24	$ 92.8	5.17	$ 116.7	4.68	$ 159.3	5.30	50.3
Idaho	14.5	5.99	23.4	4.29	36.8	5.21	47.0	5.32	57.5	5.80	47.9
MONTANA	15.7	5.34	20.4	3.59	37.5	4.74	45.4	4.15	59.8	5.03	45.4
New Mexico	17.1	9.29	29.1	5.93	55.2	7.70	74.4	7.05	101.7	8.35	78.9
North Dakota	14.7	7.28	21.8	3.97	40.9	6.03	46.5	6.03	54.3	6.05	51.7
Oregon	34.1	5.42	71.9	4.13	124.3	5.56	151.4	5.16	225.0	6.86	53.9
South Dakota	16.4	7.49	20.2	3.37	39.2	5.68	37.4	4.25	44.4	4.79	39.4
Utah	20.7	8.25	34.0	5.06	49.7	6.05	57.9	5.07	86.3	6.51	52.6
Washington	73.8	6.98	174.6	5.47	246.6	6.77	309.5	6.34	412.9	7.66	68.7
Wyoming	8.4	5.53	10.4	3.44	20.1	4.57	30.1	5.50	35.7	5.93	57.6
All 48 states	4,219.6	5.80	6,133.8	3.73	9,111.1	4.43	12,107.5	4.28	16·248.9	5.01	50.5

Source: Tax collection data from U. S. Bureau of the Census, *Compendium of State Government Finances*, personal income data from U. S. Department of Commerce, *Survey of Current Business*, and state tax collection ratios from U. S. Bureau of the Census, *State and Local Government Revenue in* 1953, No. 37, Oct. 27, 1954.

[1] Tax collections include unemployment insurance taxes and net contributions to general funds from state liquor stores in liquor monopoly states.

[2] Tax collections for fiscal year ending June 30 (except in a few cases when earlier closing dates prevailed) and personal income for preceding year.

III-C-8.

RATIOS OF ASSESSED VALUE TO SALES PRICE MONTANA AND SELECTED STATES, 1956

State	Residential Nonfarm Properties (Percent)	Acreage and Farm Properties (Percent)
Colorado	28.4	17.4
Idaho	11.2	9.9
MONTANA	8.6	6.8
New Mexico	21.5	14.1
North Dakota	13.2	16.6
Oregon	19.9	15.5
South Dakota	37.6	46.5
Utah	15.6	10.1
Washington	15.3	13.3
Wyoming	20.9	20.7

Source: U. S. Bureau of the Census, *Assessed Values and Sales Prices of Transferred Real Property*, No. 7· May 5, 1958.

III-C-9.

TUITION AND REQUIRED FEES FOR ACADEMIC YEAR 1957-58 FOR 17 SELECTED STATE UNIVERSITIES AND COLLEGES FOR FULLTIME UNDERGRADUATE STUDENTS

	Resident Student		Non-Resident Resident Student		Differential Between Resident and Non-Resident Student	
Institution	Amount	Rank Order	Amount	Rank Order	Amount	Rank Order
WEST						
U. of Arizona	$132	63	$582	10	$450	2
U. of California	106	67	406	48	300	19
Colorado State U.	210	31	510	20	300	19
U. of Colorado	196	38	562	12	366	8
U. of Idaho	119	64	369	56	250	35
Montana State College	221	23	371	55	150	60
Montana State U.	215	27	365	57	150	60
U. of Nevada	100	68	250	69	150	60
New Mexico A & M College	202	35	326	60	124	64
U. of New Mexico	210	31	410	44	200	50
Oregon State College	213	28	438	37	225	42
U. of Oregon	213	28	438	37	225	42
U. of Utah	249	12	429	42	180	59
Utah State Agri. College	177	46	282	63	105	68
St. College of Washington	183	41	400	49	217	48
U. of Washington	183	41	408	47	225	42
U. of Wyoming	211	30	421	43	210	49

Source: WICHE, *Issues in State-Supported Higher Education* (A Report to the Western Governors' Conference, Colorado Springs, February 24, 1958), page 20.

III-C-10.

TOTAL APPROPRIATIONS

UNIVERSITY OF MONTANA, 1954 THROUGH 1959

	1954	1955	1956	1957	1958	1959
Montana State University	$2,006,518	$1,971,018	$2,408,342	$2,318,842	$ 3,767,479	$ 3,626,894
Montana State College Total	2,526,567	2,415,566	3,232,567	3,138,407	5,503,173	5,455,396
Montana State College	1,766,379	1,655,379	2,123,356	2,039,086	3,964,554	3,962,163
Experiment Station	321,271	321,270	507,518	498,078	753,790	674,579
Experiment Sub Station	153,594	153,594	273,906	276,146	318,261	320,537
Extension Service	285,323	285,323	327,787	334,097	466,568	498,117
Mines Total	376,390	338,640	443,893	459,093	578,207	550,061
School	309,182	289,932	348,700	353,500	464,702	422,066
Bureau	67,208	48,708	95,193	105,593	113,505	127,995
Western	214,418	203,475	271,508	250,192	411,039	418,862
Eastern	333,656	312,167	488,166	447,546	1,024,409	1,094,261
Northern	291,094	292,394	383,121	352,294	588,882	601,865
Total	$5,748,643	$5,533,260	$7,227,595	$6,966,374	$11,873,189	$11,747,339

Source: *Laws of Montana,* 1953, 1955, 1957.

III-C-11.

CONSOLIDATION OF EDUCATIONAL SYSTEM INCOME RECORD
UNIVERSITY OF MONTANA
1945-46 to 1957-58

Year	Enrollment	FTE Staff	State Tax Funds	Fed. Vet. Education	Collections and Grants	Total Income	% of Tax Funds to Total Income
1945-46	2,592	215	$ 1,238,239	$ 139,916	$ 524,919	$ 1,903,074	65.0%
1946-47	7,587	356	1,353,732	1,235,225	487,487	3,076,444	44.0
1947-48	7,813	440	1,615,548	1,433,382	493,143	3,542,073	45.6
1948-49	7,760	411	1,710,507	1,327,538	526,178	3,564,223	47.9
1949-50	7,542	411	2,596,482	1,014,368	573,206	4,184,056	62.0
1950-51	6,492	427	2,957,446	676,229	574,842	4,208,517	70.2
1951-52	5,600	435	3,658,702	488,381	596,133	4,743,216	77.1
1952-53	5,267	436	3,863,403	208,134	616,427	4,687,964	82.4
1953-54	5,589	441	4,313,172	98,160	662,980	5,074,312	85.0
1954-55	6,290	441	4,283,122	49,338	714,956	5,047,416	84.8
1955-56	7,550	493	5,199,926	30,398	787,868	6,018,192	86.4
1956-57	8,082	528	5,466,823	22,316	1,262,662	6,751,801	80.9
1957-58	8,494	638	8,062,582	15,488	1,272,392	9,350,462	86.2
TOTALS	86,658	5,672	$46,319,684	$6,738,873	$9,093,193	$62,151,750	74.5%

Source: Office of the Executive Secretary, University of Montana, June, 1958.

III-C-12.

FTE (Full Time Equivalent) STUDENT COSTS UNITS OF THE UNIVERSITY OF MONTANA

Year	University	College	Mines	Western	Eastern	Northern
1950-51	$ 522	$627.46	$ 883.70	$ 420.06	$320.22	$642
1951-52	701	796.32	1087.91	832.11	466.57	882
1952-53	854	835.28	994.60	836.35	488.21	949
1953-54	790	858.48	1045.08	689.61	493.56	890
1954-55	751	733.92	1353.12	609.36	455.58	733
1955-56	751	724.31	1123.28	771.09	473.07	736
1956-57	791	726.22	1243.55	698.55	517.91	788
1957-58	1079	945.78	1481.00*	1012.41	858.80	901

Source: Office of the Executive Secretary, University of Montana, June, 1958.

Basis: FTE Enrollment Nov. 1st
+ ⅓ Part-time
+ ⅓ Summer enrollment.
÷ Total Operational Budget (Capital Outlay and Debt service excluded).

III-C-13.

PERCENTAGE EXPENDITURES FOR STATE INSTITUTIONS OF HIGHER LEARNING COMPARED WITH TOTAL STATE GENERAL EXPENDITURES AND PER CAPITA PERSONAL INCOME, FISCAL 1957 (PERSONAL INCOME FIGURE FOR CALENDAR 1956). ELEVEN STATES WITH 1950 POPULATION 700,000 OR LESS.

State	Population	Percent of State Expenditures Devoted to Higher Education	Expenditures for Higher Education Per Capita	Percent of Per Capita Personal Income
1. Utah	688,862	17.3	$22.92	1.40
2. New Mexico	681,187	11.0	$23.58	1.58
3. South Dakota	652,740	13.7	$18.00	1.35
4. North Dakota	619,636	12.0	$18.91	1.39
5. Montana	591,024	13.4	$20.69	1.11
6. Idaho	588,637	10.5	$14.13	.89
7. New Hampshire	533,242	9.9	$12.59	.69
8. Vermont	377,747	11.2	$16.96	1.03
9. Delaware	318,085	7.3	$15.03	.53
10. Wyoming	290,529	10.8	$22.35	1.19
11. Nevada	160,083	8.6	$18.58	.77
United States		9.3	$11.76	.61

Source: *Tax Foundation and Compendium of State Government Finances in* 1957, Tables 13, 17, 38-40.

III-C-14.

EXPENDITURES FOR STATE INSTITUTIONS OF HIGHER LEARNING FISCAL 1957 IN ELEVEN STATES RANKED IN 1950 POPULATION ORDER (700,000 POPULATION OR LESS)

State	1 State Expenditures Higher Education	2 Total State Expenditures (rounded)	3 Percentage Column 1 of Column 2
Utah	18,912,000	109,256,000	17.3
New Mexico	19,125,000	173,512,000	1.00
South Dakota	12,475,000	90,734,000	13.7
North Dakota	12,138,000	100,967,000	12.0
Montana	13,510,000	100,997,000	13.4
Idaho	8,833,000	84,066,000	10.5
New Hampshire	7,099,000	71,878,000	9.9
Vermont	6,293,000	56,400,000	11.2
Delaware	6,282,000	86,769,000	7.3
Wyoming	7,064,000	65,681,000	10.8
Nevada	4,756,000	55,324,000	8.6

Source: Tax Foundation and *C S G F,* 1957.

III.

D. SALARIES AND FACULTY BENEFITS

III-D-1.

SALARIES PAID TO DEANS AND FACULTY OF LAND GRANT COLLEGES 1957-58, COMPARED WITH PRIVATE UNIVERSITIES

	Private Universities	49-Land-Grant Colleges
Dean	$11,140	$12,610
Professor	8,860	8,750
Associate Professor	6,660	6,880
Assistant Professor	5,490	5,800
Instructor	4,520	4,720

Source: *Higher Education Planning and Management Data* 1957-58, Circular 517 U. S. Department of Health, Education, and Welfare, page 60.

III-D-2.

MEDIAN SALARIES FULL PROFESSORS 1957-58

Montana State University	$8,793
Montana State College	8,625
U. S. Median	8,072
Median State Universities	8,957

Sources: Research Report 1958-R-1, National Education Association; Montana State College Institutional Research Committee, 2-4-58.

III-D-3.

COMPARISON OF MEAN SALARIES BY SIZE OF ENROLLMENT AND BY TEACHING RANKS FOR THOSE EMPLOYED NOT MORE THAN 10 MONTHS PUBLIC INSTITUTIONS, 1957-58

Enrollment	Professor	Assoc. Prof.	Asst. Prof.	Instr.
200-499	$ 5,920	$5,250	$4,960	$5,050
500-999	7,110	6,030	5,100	5,160
1,000-1,999	7,380	6,300	5,550	5,160
2,000-4,999	7,370	6,240	5,470	4,870
5,000-9,999	8,410	6,790	5,860	5,260
10,000-19,999	9,530	7,460	6,240	5,070
20,000 & more	10,420	7,830	6,480	5,350

Source: *Higher Education Planning and Management Data* 1957-58, Circular 517 U. S. Department of Health, Education and Welfare, page 27.

III-D-4.

FREQUENCY WITH WHICH SPECIFIC FRINGE BENEFITS ARE PROVIDED TO FACULTY AND STAFF GROUPS IN PUBLIC INSTITUTIONS ACCORDING TO METHODS OF FINANCING, 1957-58

Method of Financing and Specific Fringe Benefit	Total Response	None Reported	Adm., Fac., Off., & Main
Provided by Institution at no Cost to Employees			
1. Retirement annuity other than OASI	448	432	9
2. Group Hospitalization	448	442	2
3. Major medical coverage	448	441	2
4. Accident insurance	448	377	69
5. Health service provided by institution	448	416	32
6. Life insurance	448	436	8
7. Sabbatical leaves	448	343	5
8. Vacations with pay	448	56	269
9. Sick leaves with pay	448	40	380
10. Reduction of tuition to employee's dependents	448	413	20
11. Discount on purchases	448	422	23
12. Loan fund for sizeable purchases	448	438	8
13. Significant recreation facilities	448	384	58
Cost Shared by Institution and Employees			
1. Social Security (OASI)	448	134	272
2. Retirement annuity other than OASI	448	99	277
3. Group hospitalization	448	373	68
4. Major medical coverage	448	410	32
5. Accident insurance	448	412	32
6. Health service provided by institution	448	427	18
7. Life insurance	448	364	74
8. Sabbatical leaves	448	335	8
9. Sick leaves with pay	448	431	14
10. Reduction of tuition to employee's dependents	448	433	12
11. Discount on purchases	448	445	1
12. Providing housing for many employees	448	417	18
13. Significant recreational facilities	448	428	18
Service Available but not Subsidized by Institution			
1. Retirement annuity other than OASI	448	398	37
2. Group hospitalization	448	116	312
3. Major medical coverage	448	260	173
4. Accident insurance	448	330	105
5. Providing housing for many employees	448	398	38

Source: *Higher Education Planning and Management Data* 1957-58, Circular 517, U. S. Dept. of Health, Education, and Welfare, page 58, Table 28.

III.

E. BUILDINGS AND BUILDING BONDS

III-E-1

INVENTORY OF LANDS AND BUILDINGS UNIVERSITY OF MONTANA, JULY 1, 1957

Unit	Land	Buildings
Montana State University	$ 891,760	$12,183,142
Montana State College	769,944	13,281,400
Montana School of Mines	46,638	1,522,045
Western M. C. E.	63,915	952,572
Eastern M. C. E.	82,674	1,893,380
Northern M. C.	161,828	2,145,002*
Total	$2,016,759	$31,977,541

Source: Office of the Executive Secretary, University of Montana, Helena.

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*Includes incomplete buildings

III-E-2

REPORT (FROM THE EXECUTIVE COUNCIL) TO THE STATE BOARD OF EDUCATION REGARDING BUILDING NEEDS AT THE UNITS OF THE UNIVERSITY OF MONTANA FEBRURARY 10, 1958

Montana State University

The following does not include (1) revenue financed construction, e. g. student housing or Natural Science Building presently in planning and financing stage, (2) repairs and remodeling of old buildings, or (3) utilities and grounds including sewers. Many needs are not included but may be substituted in lieu of any part of the following at any later time as needs and alternatives may develop.

1957-1963 (estimated enrollment - 4175 for 1962)

1. Forestry (plus Botany)	$1,000,000
2. General Classroom & Laboratory	1,000,000
3. Physics and Geology	900,000
4. Chemistry or Pharmacy	750,000
5. Law and Administration	700,000
6. Forest Products Laboratory	350,000
7. Liberal Arts, office wing	300,000
	$5,000,000

III-E-2. (Continued)

1963-1968 (estimated enrollment - 5520 for 1967)

1.	Library extension	$1,000,000
2.	Behavioral (Social) Sciences	800,000
3.	Education	750,000
4.	Classroom-Lab. Building	700,000
5.	Fine Arts Building	600,000
6.	Women's Center Extension	450,000
7.	Music Extension	400,000
8.	Physical Plant stores, shops	300,000
		$5,000,000

Montana State College

This does not include revenue financed construction such as dormitories, married student housing, repairs and remodeling of existing buildings, or utilities and grounds including sewers.

1957-1963 (estimated enrollment - 5100 for 1962)

1.	Chemistry Building	$1,500,000
2.	Library addition	1,000,000
3.	Engineering and Agric. Engineering inc. Industrial Arts	1,000,000
4.	Plant Science	1,000,000
5.	Architecture and Applied Arts	600,000
6.	Military Science	700,000
		$5,900,000

1963-1967 (estimated enrollment - 7200 for 1967)

1.	Math-Physics Addition	$ 750,000
2.	Boiler and service shop expansion	300,000
3.	Engineering laboratory addition	500,000
4.	Industrial and graduate research	700,000
5.	Earth Science (soils, hydrology, natural resources, geophysics, irrigation, etc.	800,000
6.	Animal Science	750,000
7.	Agricultural Extension Building	500,000
8.	Nursing and Health Science Building	500,000
9.	Home Economics Addition	500,000
10.	Administration Building addition	400,000
		$5,700,000

Montana School of Mines

1957-1963 (Estimated enrollment - 385 for 1962)

1.	New Mining and Geology Building	$ 550,000
2.	New Heating Plant and Maint. shop	300,000
3.	Completion of ½ Top Floor of Petroleum Building	50,000
4.	Remodeling and Repair of Main Hall	81,000
5.	Remodeling and Repair of Eng. Bldg.	28,000
6.	Enlarging of Library Facilities	20,000
7.	Enlarging of Chemistry Lb. Facilities	30,000
		1,059,000

1963-1968 (Estimated enrollment - 485 for 1967)

1.	New Mineral Industries Research Center	$ 500,000
	Plus any projects in the first five year period which have not been accomplished	

Requirements for Campus Repair

1.	Improvement of Fire Fighting Facilities	$ 5,600
2.	Revetment, Ball Field, Tennis Courts, etc.	?

Western Montana College of Education

1957-1963 (estimated enrollment - 500 for 1962)

No new structures:

1.	Addition to heating plant	$ 420,000
2.	Renovation of Main Building	
3.	Utilities	
4.	Repairs to Gymnasium	
5.	Walks, parking, etc.	

1963-1968 (estimated enrollment - 750 for 1967)

1.	Campus School not to exceed	$ 800,000

Eastern Montana College of Education

1957-1963 (Estimated Enrollment - 935 for 1962)

1.	Classroom Building	$1,000,000
2.	Library	500,000
3.	Physical Ed. Instructional facilities	500,000
		$2,000,000

III-E-2. (Continued)

1963-1968 (Estimated Enrollment - 957 for 1967)

None

Northern Montana College

1957-1963 (Estimated Enrollment - 809 for 1962)

1.	Finish Cowan Hall	$ 160,000
2.	Finish Auto-mechanics Bldg.	120,000
3.	Extension to Gymnasium	270,000
4.	New Science Building	750,000
5.	Electr.-Technical-Carpentry	200,000
6.	Music and Art	500,000
		$2,000,000

1963-1968 Estimated Enrollment - 1068 for 1967)

1.	Classroom Building	$ 850,000
2.	Vocational Technical (farm and ranch management, electronics, etc.)	800,000
3.	Library	500,000
4.	Auditorium	750,000
5.	Women's Center	200,000
		$3,100,000

III-E-3.

BONDS ISSUED FOR BUILDINGS AT THE UNITS OF THE UNIVERSITY OF MONTANA AS OF JUNE 1, 1958

MONTANA STATE UNIVERSITY

Project	Bonds Issued	Outstanding 6/1/58	Payment Source*	Interest Rate	Final Maturity Date
New Residence Hall Bonds '37	$ 255,000	$ 1,000**	E	4½%	11/ 1/52
Stud. Uni. '34	240,000	22,000	S, E	4%	3/ 1/63
St uni- Facil.	300,000	300,000	E, S	3¾%	8/ 1/83
Field House '53	800,000	761,000	B, F, E	3½ (3⅝) %	4/ 1/83
Field House '56	200,000	200,000	B, F, E	3%½	4/ 1/78
Health Center & Libr. Add. '55	425,000	415,000	I, H, E	4.9-3.4%	4/ 1/83
Libr. Ser. B '56	75,000	65,000	I, H, E	"	4/ 1/68
Rev. BDs. Ser. A '56	3,360,000	3,360,000	F, E	3½%	7/ 1/92
Rev. Bds. '57 ser.	450,000	450,000	F, E	4¼;4.75;4.9%	7/ 1/82
	6,105,000	5,574,000			

(The swimming Pool is substantially completed at a cost of approximately $280,000, financed by a short-term loan).

** Matured but not presented for redemption

MONTANA STATE COLLEGE

Project	Bonds Issued	Outstanding 6/1/58	Payment Source*	Interest Rate	Final Maturity Date
Revenue Bonds '54	$4,600,000	$4,398,000	S, E, F, B, I	2¾-3¾%	1/ 1/90
Stud. Fac. Housing '56	430,000	430,000	E	4%	7/ 1/76
Phys. Ed. Center 1956	1,600,000	1,600,000	HB, E, F	3.6%	7/ 1/90
Class Bldg.	1,750,000	1,750,000	F	5%	7/ 1/92
	8,380,000	8,178,000			

III-E-3. (Continued)

MONTANA SCHOOL OF MINES

Project	Bonds Issued	Outstanding 6/1/58	Payment Source*	Interest Rate	Final Maturity Date
Res. Halls	$ 245,000	60,000	E	4%	4/ 1/64
Lib. & Mus.	110,000	17,000	B, I	3¼(3½)%	12/ 1/60
	355,000	77,000			
EASTERN MONTANA COLLEGE OF EDUCATION					
Main Bldg.	191,000	43,000	F, I	4%	11/ 1/63
Wom. Res. Hall	300,000	249,000	E	3¾%	12/11/75
Men Res. Hall	330,000	330,000	E, I	2¾%	10/ 1/96
Student Union	90,000	83,000	E, S	4%	2/ 1/79
	911,000	705,000			
NORTHERN MONTANA COLLEGE					
W. Res. Hall	151,000	42,000	E	4%	2/ 1/64
Arm. Gym.	120,000	125,000	B, E	4%	9/ 1/80
Arm. Entr.	16,000	13,300	E	4%	1958
	287,000	180,300			
Grand Total	16,038,000	14,714,300			

* Code Letters:

B—Bldg. Fee	F—Fees	H—Health Serv. Fee	HB—Health Bldg. Fee
E—Project Earnings	I—Int. and Inc.	S—Student Union Fee	

Source: Office of the Executive Secretary, University of Montana.

III-E-4.

INSTRUCTIONAL SPACE UTILIZATION
UNIVERSITY OF MONTANA UNITS
AUTUMN QUARTER, 1956

	CLASSROOMS			LABORATORIES		
	Number of Rooms Studied	Average Hrs. Per Week Scheduled Use	Percentage of Utilization (36 Hours = 100%)	Number of Rooms Studied	Average Hrs. Per Week Scheduled Use	Percentage of Utilization (24 Hrs. = 100%)
U.	91	21.3	59.2	38	12.1	50.4
C.	80	19.8	55.0	78	21.6	90.0
Mines	20	12.6	35.0	27	12.5	52.1
W.	20	14.3	39.7	4	4.5	18.8
E.	17	23.7	65.8	17	12.4	51.7
N.	16	15.5	43.1	15	17.8	74.2
Totals	244	19.1	53.1	179	15.9	66.3
Calif. *Restudy* standards		36.0	100% with 67.0 of student stations		24.0	100% with 80.0 of student stations

Sources: Memorandum (mimeographed, 5 pages) "Instructional Space Utilization, University of Montana Units," January 3, 1957, page 5. Minutes of the Executive Council, 1956-57, Office of the Executive Secretary, Helena, Montana.

and

California State Department of Education, *A Restudy of the Needs of California in Higher Education* (Sacramento, 1955), page 313, page 321.

III.

F. STUDENT CREDIT HOURS (SCH) PRODUCED AND COST PER SCH PRODUCED (ROUGH), UNIVERSITY OF MONTANA UNITS, 1957-58, RANKED BY DEPARTMENTS

(See main text for explanation and limitations of this data, which is included primarily to illustrate a methodology in program analyisis).

III-F-1.

RANKING OF MONTANA STATE COLLEGE DEPARTMENTS BY STUDENT CREDIT HOUR PRODUCTION, 1957-58 (Rough)

Department	Student Credit Hours	Cost of Instruction	Cost Per S.C.H. for Instruction[1]
1. Mathematics	21,413	$ 126,120	$ 5.86
2. English	17,396	120,428	6.92
3. Chemistry	12,236	130,157	10.64
4. History and Government	10,534	47,125	4.47
5. Nursing	8,952.5	181,335	20.25
6. Mechanical Engineering	8,704	82,724	9.50
7. Economics and Sociology	8,142	47,477	5.83
8. Physics	7,724	100,995	13.08
9. Zoology & Entomology	6,919	73,334	10.60
10. Botany and Bacteriology	6,514	106,665	16.37
11. Health and Physical Education	6,010	139,055	23.14
12. Education	5,785	73,077	12.63
13. Agricultural Eng. & Ind. Arts	5,679	44,600	7.85
14. Commercial Science	5,583	35,625	6.38
15. Architecture	5,179	60,350	11.65
16. Home Economics	4,907	76,405	15.57
17. Chemical Engineering	4,542.5	41,225	9.08
18. Civil Engineering	4,508	82,025	18.20
19. Electrical Engineering	4,443	70,635	15.90
20. Applied Art	4,312	40,100	9.30
21. Psychology	4,172	33,325	7.99
22. Military Science	3,771	11,614	3.08
23. Geography and Geology	3,591	33,025	9.20
24. Animal Ind. and Range Mgt.	3,005	65,031	21.64
25. Music	2,699.5	48,738	18.05
26. Agronomy & Soils	2,185	32,300	14.78
27. Modern Language	2,126	22,130	10.41
28. Agricultural Econ. & Rural Soc.	1,871	22,590	12.07
29. Industrial Engineering	1,063	29,892	28.12
30. Agricultural Education	938	26,705	28.47
31. Film — Television	604	27,200	45.03
32. Veterinary Science	515	16,575	32.18
33. Dairy Industry	451	40,250	89.24
34. Horticulture	351	18,180	51.79
35. Library Science	281	6,000 (est)	21.35
36. Poultry Industry	147	9,950	67.69
Totals	187,253.5	$2,122,962	$11.34 avg.

Source: Inter-Unit Institutional Research Committee, July, 1958.

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[1] This column includes departmental expenses *and* salaries for all units except Western, Table III-F-4, which includes *salaries only*.

III-F-2.

RANKING OF MONTANA STATE UNIVERSITY DEPARTMENTS BY STUDENT CREDIT HOUR PRODUCTION, 1957-58 (Rough)

Departments	Student Credit Hours	Cost of Instruction	Cost Per S.C.H. for Instruction
1. Business Administration	15,648	$ 133,168	$ 8.51
2. English	13,581	130,377	9.60
3. Education	11,214	148,001	13.20
4. History & Political Science	10,029	103,443	10.31
5 Foreign Languages	8,613	85,375	9.91
6. Sociology, Anthropology & Social Welfare	7,782	60,233	7.74
7. Forestry	6,583	107,402	16.32
8. Mathematics	6,163	54,330	8.82
9. Psychology	5,884	68,800	11.69
10. Health & Physical Educ.	5,034	63,184	12.55
11. Zoology	4,618	84,835	18.37
12. Chemistry	4,365	67,360	15.43
13. Fine Arts	4,319	215,706	49.94
14. Botany	4,265	70,827	16.60
15. Economics	3,640	50,100	13.76
16. Speech & Speech Pathology	3,580	46,880	13.09
17. Philosophy	3,268	28,350	8.68
18. Military Science & Tactics	3,081	6,125	1.98
19. Home Economics	2,857	55,256	19.04
20. Special Schools (Self-supporting) Religion, Night School, Ext.	2,641		
21. Geology	2,398	60,100	25.06
22. Geography	2,277	20,500	9.17
23. Law	2,188	76,587	35.00
24. Physics	2,145	62,250	29.02
25. Pharmacy	2,000	61,043	30.52
26. Journalism	1,555	54,330	34.94
27. Bacteriology	627	44,700	71.30
Totals	140,986	$1,959,265	$13.90 av.

Source: Inter-Unit Institutional Research Committee, July, 1958.

III-F-3.

RANKING OF MONTANA SCHOOL OF MINES DEPARTMENTS BY STUDENT CREDIT HOUR PRODUCTION, 1957-58 (Rough)

Departments	Student Credit Hours	Cost of Instruction	Cost Per S.C.H. for Instruction
1. Humanities	2,049	$ 37,085.77	$18.10
2. Math	1,206	19,944.92	16.54
3. Chemistry	1,121	29,048.80	25.91
4. Geology	1,014	24,080.10	23.75
5. Physics	806	14,269.33	17.70
6. Mining	400	19,361.92	48.40
7. Mechanics & Electrical	373	19,967.91	56.09
8. Metallurgy	356	19,967.91	56.09
9. Petroleum	306	15,508.10	50.68
10. Engineering Drawing	272	6,120.84	22.50
11. Mineral Dressing	202	12,412.55	61.45
12. Physical Education	97	9,295.52	95.83
Totals	8,202	$292,681.34	$35.68 av.

Source: Inter-Unit Institutional Research Committee, July, 1958.

III-F-4.

RANKING OF WESTERN MONTANA COLLEGE OF EDUCATION DEPARTMENTS BY STUDENT CREDIT HOUR PRODUCTION, 1957-58 (Rough)

Departments	Student Credit Hours	Cost of Instruction	Cost Per S.C.H. for Instruction (salaries only)
1. Education	4,713	$ 36,281	$ 7.70
2. English	3,450	20,961	6.08
3. Social Science	3,527	13,125	3.72
4. Science	1,815	9,960	5.49
5. Physical Education	1,420	9,445	6.38
6. Art	913	11,124	12.18
7. Music	885	16,911	19.11
8. Student Teaching	744	13,448	18.08
9. Business	587	9,008	15.35
10. Mathematics	482	5,601	11.62
11. I. A.	329	5,152	15.66
12. Home Economics	270	5,200	19.26
13 Foreign Languages	165	3,763	22.80
Totals	19,300	$159,979	$ 8.29 av.

Source: Inter-Unit Institutional Research Committee, July, 1958.

III-F-5.

RANKING OF EASTERN MONTANA COLLEGE OF EDUCATION DEPARTMENTS BY STUDENT CREDIT HOUR PRODUCTION, 1957-58 (Rough)

Departments	Student Credit Hours	Cost of Instruction	Cost Per S.C.H. for Instruction (Rounded)
1. Education	11,202	$ 97,070	$ 9.00
2. English	6,519	60,188	9.00
3. Science	5,837	35,237	6.00
4. Social Science	5,047	28,601	6.00
5. Mathematics	3,930	22,203	6.00
6. Business	2,961	24,045	8.00
7. Psychology & Philosophy	2,658	9,084	3.00
8. Health & P. E.	2,629	27,700	11.00
9. Fine Arts (ART)	1,776	18,247	10.00
10. Fine Arts (Music)	1,562	15,255	10.00
11. Modern Language	489	6,331	13.00
Totals	44,610	$347,789	$7.71

Source: Inter-Unit Institutional Research Committee, July, 1958.

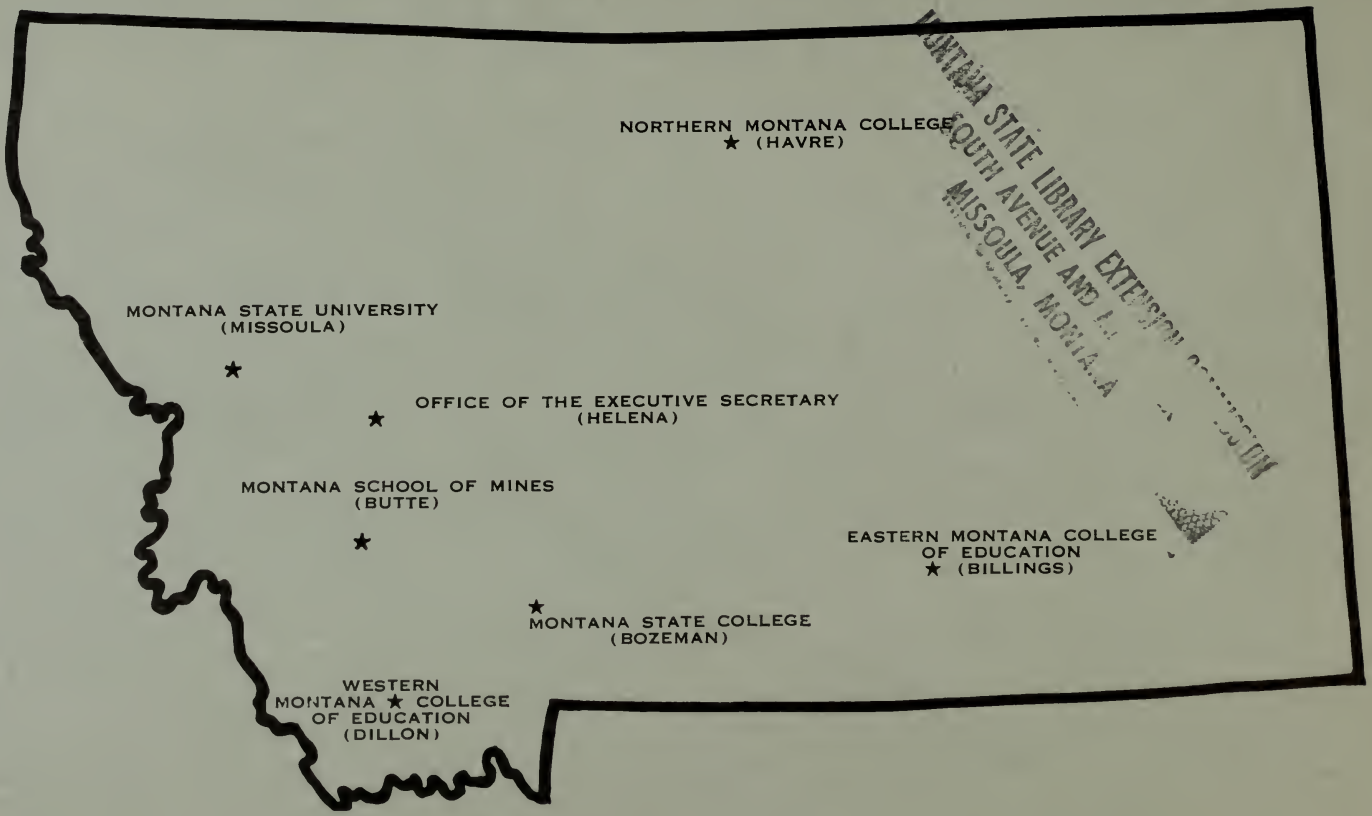
III-F-6.

RANKING OF NORTHERN MONTANA COLLEGE DEPARTMENTS BY STUDENT CREDIT HOUR PRODUCTION, 1957-58 (Rough)

Departments	Student Credit Hours	Cost of Instruction	Cost Per S.C.H. for Instruction
1. Social Studies	4,217	$ 19,446	$ 4.61
2. English	4,133	37,245	9.01
3. Education	3,503	-------	-------
4. Mathematics	1,896	8,585	4.53
5. Industrial Arts	1,262	15,095	11.96
6. Biology	1,258	8,427	6.70
7. Business & Secretarial Science	1,155	21,485	18.60
8. Psychology	1,153	-------	-------
9. General Science	1,150	7,637	6.64
10. Practical Nursing	969	6,963	7.19
11. Auto Mechanics	976	16,860	17.27
12. Physical Education	796	11,296	14.19
13. Art	711	6,450	9.07
14. Music	628	7,695	12.25
15. Chemistry	620	6,278	10.13
16. Drawing	488	7,435	14.61
17. Physics	465	3,152	6.78
18. Farm and Ranch Management	418	9,480	22.68
19. Cosmetology	362	7,591	20.97
20. Electricity	231	8,621	37.32
21. Carpentry	209	5,561	26.61
22. Engineering	21	-------	-------
23. Correspondence	288	864	3.00
24. Extension	908	4,825	5.31
Totals	27,817	$286,016	$10.28

Source: Inter-Unit Institutional Research Committee, July, 1958.

LOCATION OF THE SIX UNITS OF THE UNIVERSITY OF MONTANA



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